

REPUBLIC OF THE UNION OF MYANMAR

NATIONAL EXPORT STRATEGY

RUBBER

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

ARCPC	Applied Research Centre for Perennial Crops	MRTPC	Myanmar Rubber Trade Promotion Committee (to be established)
ASEAN	Association of South-East Asian Nations	MTDC	Myanmar Trade Development Committee
DICD	Department of Industrial Crop Development	NES	National Export Strategy
FAO	Food and Agricultural Organization of the United Nations	No. 2 HIE	No. 2 Heavy Industries Enterprise
FDI	Foreign Direct Investment	PoA	Plan of Action
HS	Harmonized System	R&D	Research and Development
ISO	International Organization for Standardization	RSS	Ribbed Smoked Sheets
ITC	International Trade Centre	RTTCRP	Research Technology & Training Centre for Rubber Products
MoAI	Ministry of Agriculture and Irrigation	TSI	Trade Support Institution
MoC	Ministry of Commerce	TSR	Technically Specified Rubber
MoFR	Ministry of Finance and Revenue	UMFCCI	Union of Myanmar Federation of Chambers of Commerce and Industry
Mol	Ministry of Industry	UNDP	United Nations Development Programme
MRPPA	Myanmar Rubber Planters and Producers Association		

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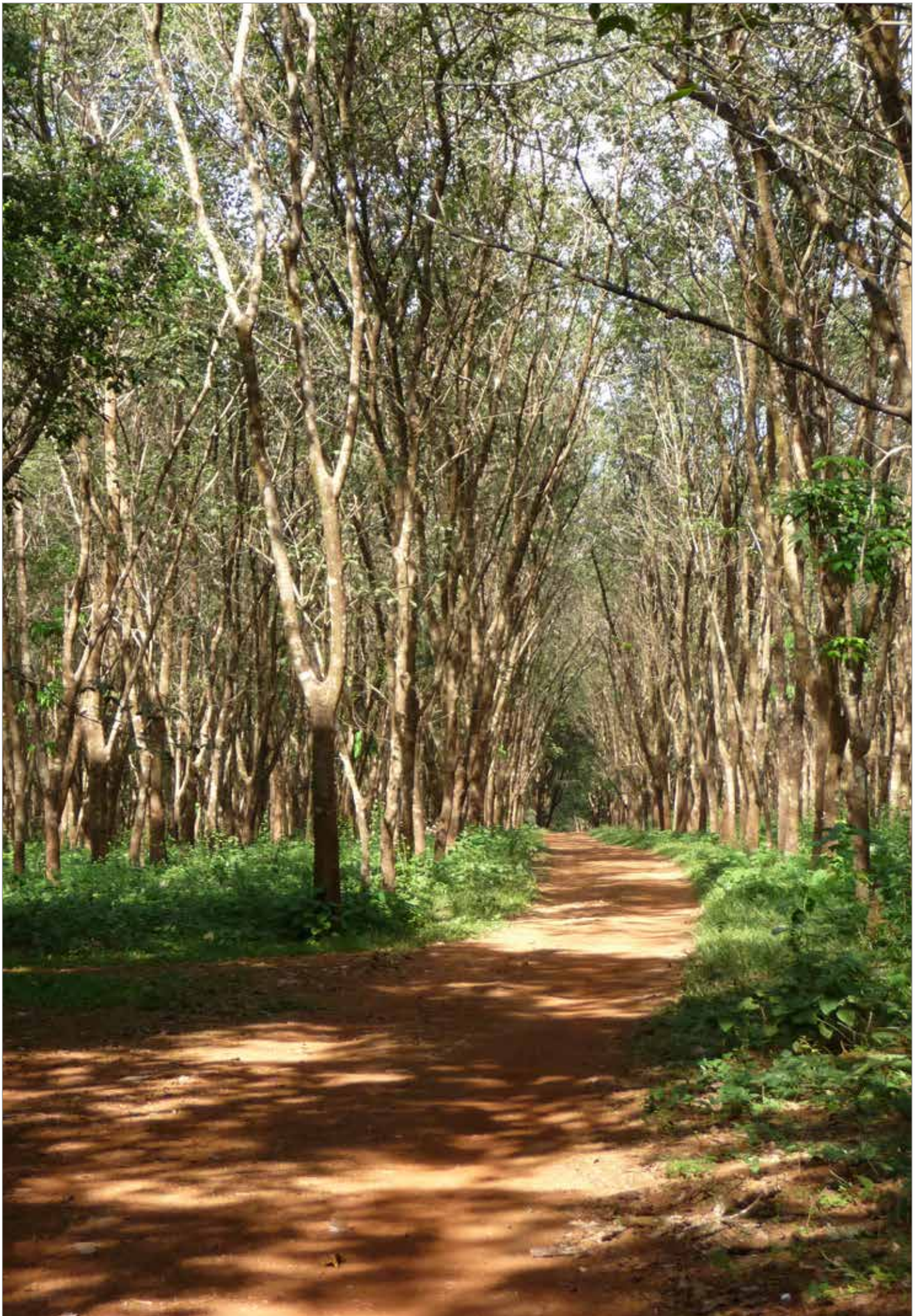
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(cc) Sean Beesley. Drive way through plantation.

EXECUTIVE SUMMARY

The rubber sector strategy holds significant promise in terms of contributing to the export performance of Myanmar, while also driving improvements across the sector export value chain. Although the sector's contribution to national gross domestic product is rather limited (less than 1%), the development of the sector – and more particularly of its industry – could have a high socioeconomic impact and become a driver of job creation. It is estimated that the sector currently employs between 350,000 and 400,000 workers, mainly in the plantation or upstream sector linked to planting and production of raw natural rubber.

CURRENT CONTEXT

In general, the rubber products sector remains relatively small in terms of its exported value (US\$215 million¹), being only the ninth largest export product in Myanmar in 2012, far behind mineral fuels, the top exported product, with an exported value of US\$3.5 billion that same year.

As the industry related to manufacturing of rubber products is still emerging, Myanmar mainly exports natural rubber, while value added manufactured rubber products are imported, mostly from China and Thailand. As a result, and partly due to the recent drop in natural rubber prices, the rubber products sector as a whole reported a trade balance deficit of US\$5 million in 2012 after two successive years of surplus. To date, 90% of the rubber products exported consist of raw natural rubber, namely Ribbed Smoked Sheets (RSS) and Technically Specified Rubber (TSR).

Based on Ministry of Agriculture and Irrigation (MoAI) estimates, the production of natural rubber has more than tripled over the past decade, reaching a volume of 150,000 tons in 2011-2012, driven mainly by the opening up of the economy in 2008 and the rapid expansion of the total tapped area, which exceeded 490,000 acres

(approximately 200,000 hectares)² in 2011-2012 compared with 267,000 acres in 2005-2006.

The rubber products sector's **key supply-side constraints** are:

- Low productivity of the sector, mainly caused by the inferior quality of planting materials and inputs, the planting of low-yield cultivars, and the low adoption of improved harvesting technology;
- Low quality, reducing value and affecting the ability to diversify into new export markets;
- Inadequate electricity supply, low levels of foreign direct investment (FDI), outdated technologies and an unskilled workforce, which are constraining the development of higher added value activities;
- Low capacity and skills set, which is adversely affecting the productivity and sustainability of the sector;
- Fragmented and small-sized agricultural holdings lead to low and unpredictable yields.

The rubber products sector's **key business environment constraints** include:

- Lack of regulation and law governing the rubber products sector;
- Lack of international accreditation for rubber testing laboratories in Myanmar results in reduced target market confidence for domestic exports;
- The need for a specialized rubber research institute to best answer sector needs;
- Limited access to capital, which is a significant barrier to entry for enterprises in the sector;
- Inefficiency of the trade support institutions (TSIs) in the rubber products sector, which leads to poor linkages and coordination between the various stakeholders and prevents them from accessing key market information.

Looking at trends in world trade for natural rubber, it is important to highlight the fact that despite reported growth

1. ITC calculations based on United Nations Comtrade statistics.

2. The total planted area represented 1.4 million acres in 2012-2013.



of 21% during the period 2008-2012, the world's imports of natural rubber are now facing a severe downturn with world demand decreasing by 29% in value in 2011-2012. Affected by this contraction in the world market, natural rubber export prices dropped from around US\$5,500 per ton in 2011 to US\$3,000 in the first quarter of 2013.

EXPORT PERFORMANCE

Myanmar is a small player in the global rubber market, ranking thirteenth in world exports with a global share of 0.76% in 2012. However, sector exports have exhibited impressive growth in recent years, albeit starting from a low base.

Myanmar's export growth between 2008 and 2012 outperformed world market trends: Myanmar natural rubber exports have grown at a rate of 32%, compared with global import growth of 20% over the same period. The country is continuously increasing its world market share for natural rubber (+10% in 2012), thereby slowly catching up with the leading natural rubber exporters in the region.

Natural rubber exports in Myanmar totalled US\$ 195.6 million in value in 2012 (57,775 tons of natural rubber were exported that year compared with 51,506 tons in

2011³). However, affected by the sharp drop in the price of natural rubber, revenues generated from these exported volumes declined by 10% (from US\$223.2 million in 2011 to US\$ 195.6 million in 2012). The main exported products are RSS and TSR, sold almost exclusively to the neighbouring Chinese and Malaysian markets, these two countries accounting for 61% and 32% respectively of the natural rubber exported by Myanmar.

Despite its recent dynamism, the export performance of the rubber products sector has been hampered by a wide range of issues such as the low quality of the country's natural rubber, the low productivity of the sector, the lack of quality control on production inputs, and the use of unskilled labour. The trade information available to the sector suffers from poor content and accessibility challenges, and finally, poor sector organization is hindering export promotion and branding efforts. Fragmented and small-sized agricultural holdings also lead to low and unpredictable yields.

3. ITC calculations. It is to be noted that local authorities reported a total amount of US\$265.3 million worth of natural rubber exported that same year for a total volume of 86,881 tons. The difference between these figures can be partly attributed to China underreporting its imports because of its 37% tax on imported rubber (aimed at protecting national rubber plantations). As demand is strong, however, the country is importing rubber from Myanmar illegally and reporting it as its own.

OPTIONS FOR FUTURE DEVELOPMENT

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

“ To foster innovation and sustainable growth in national and global rubber value chains. ”

To achieve this vision, the strategy will reduce the binding constraints on trade competitiveness and capitalize on strategic options identified for the Myanmar rubber products sector. The strategic orientations aim at developing key markets in the short and medium terms for Myanmar 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 the following five strategic objectives, each spelling out specific sets of activities intended to address both challenges and opportunities facing the rubber products sector in Myanmar.

- Create an environment for attracting investment and finance into the rubber products sector.
- Establish the regulatory framework and national quality infrastructure for a sustainable and competitive sector along the value chain.
- Promote Myanmar's natural rubber and related rubber products industry internationally.
- Strengthen skills, technologies and human resources to create value addition, higher productivity and quality in Myanmar's rubber products sector.
- Facilitate the availability of land resources and physical infrastructure in the rubber products sector.

ROAD MAP FOR EXPORT DEVELOPMENT

The short-term market development of the rubber products sector will focus on existing products in target 'traditional' or 'old' destinations such as China, Malaysia, Singapore, India and the Republic of Korea. The next step will be to develop these existing products to 'new' markets with high growth potential such as the European Union (EU) (Germany, France, Italy and the United Kingdom of Great Britain and Northern Ireland), the United States

of America and Japan. In the medium term, the strategy will enable exporters to expand their existing products' export reach through the supply of new products, initially to old target markets and then targeting new, developed markets.

To achieve efficiency gains in the rubber products sector, the key structural changes to the value chain will include the following: upgrade planting materials, production inputs and cultivars; develop technical competencies of the rubber products sector towards improved quality rubber products and value added rubber market segments; improve the capacity of the rubber products sector to comply with international standards; and improve inclusion of a skilled workforce throughout the sector value chain.

TARGETS

The key targets of the strategy as defined by sector exporters are to:

- Increase the share of processed rubber in total rubber exports by 10% per annum;
- Increase exports to non-traditional regional markets by moving into downstream activities and improving marketing of Myanmar products;
- Increase exports to developed markets (EU, United States and Japan in particular);
- Use existing free trade arrangements as a platform to benefit from preferential margins and easier market access, such as through the Association of South-East Asian Nations (ASEAN)–Korea and ASEAN–Australia–New Zealand Free Trade Agreements.

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, 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 rubber products sector.

Each institution mandated to support the export development of the rubber products 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 rubber 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 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.

Trade support network analysis: The trade support network comprises the support services available to the primary value chain players discussed above. It is constituted 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 and medium- to long terms for Myanmar exporters; and
- Structural changes to the value chain that result in either strengthening of linkages or introduction of new linkages.

Realistic and measurable plans of actions: 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 rubber products forms an integral part of the NES of Myanmar. The sector contributes in a significant manner to employment, rural development and, more recently, export earnings. The level of value addition of the sector in Myanmar remains extremely low, although some limited production in downstream activities has begun to take off. The export development of the sector has mainly been oriented towards export to China for further transformation in manufacturing. The sector's future export prospects are quite positive despite a variety of existing challenges, ranging from the policy environment to the supply of inputs, technology and skills.

This document presents the expectations of the private and public sectors for the improvement of the rubber products sector in Myanmar. Without concerted efforts to address critical issues and identified market development opportunities, the sector's potential will remain untapped. The five-year PoA of the strategy proposes realistic and achievable activities that will support the rubber products sector's growth as a leading export sector, creating downstream Myanmar rubber products capable of meeting growing global standards and demand.

HISTORICAL OVERVIEW

Hevea brasiliensis rubber was reportedly introduced into Myanmar in 1876, with commercial planting starting in 1909 and reaching 140,000 acres of planted areas by 1960. With the support of a Food and Agriculture Organization of the United Nations (FAO) project in the late 1950s and 1960s, a total of 30,440 acres were planted with new cultivars. The area of plantations then reached a peak of 220,000 acres in 1969. With the change of political situation in 1962, many rubber estates owned by both local citizens and foreigners were nationalized in the years 1964 to 1973. Thereafter, due to the loss of interest by private sector planters, who owned about 80% of the area, rubber areas declined to 190,000 acres in the 1980s.

From 1963 to 1988, the Government controlled the local rubber planting industry through a series of measures, such as:

1. Direct ownership of production from Government estates;
2. Procurement of rubber as the sole legal buyer;
3. Marketing of rubber both for export and for domestic consumption;
4. Distribution of the limited supplies of inputs;
5. The provision of occasional advice to rubber planters.

The Government has given rubber the status of a priority crop in national development plans since 1979. The Government sought assistance from international organizations to replant rubber plantations with high-yielding cultivars and to modernize the deteriorating rubber products industry. This resulted in a two-phase Rubber Rehabilitation Project, implemented with credits from the International Development Association, from 1979-1980 to 1984-1985⁴ (Phase I) and from 1984-1985 to 1992-1993 (Phase II).

The United Nations Development Programme (UNDP) supported the project in the form of technical assistance, with UNDP providing the grant fund and FAO acting as executing agency of the project. The projects were implemented from 1979 to 1982 and from 1984 to 1987, and provided consultancy inputs, staff training and some equipment. UNDP and FAO continued to provide assistance to the plantation crops industry through the Applied Research Centre for Perennial Crops (ARCPC) project, which was implemented from 1991 to 1994 with a grant of US\$ 1,090,000. This project assisted in establishing a research centre, improving infrastructure, training staff to acquire the technical and managerial capabilities needed to undertake applied research, and providing extension support to the private sector.

4. The two phases of the project successfully planted a total of 4,500 acres and 11,153 acres respectively. However, the project was limited to government-owned plantations, excluding the private sector which constituted the majority of the industry.



The Development Centre for Rubber Technology was established with the assistance of the United Nations Industrial Development Organization in 1987, with the objective of providing assistance to rubber product manufacturers in respect of technologies, formulation and training.

A political change took place in late 1988, at which time all foreign aid and International Development Association credits were suspended. The UNDP/FAO-assisted ARCPC project was the last project in the rubber products sector which was implemented with external assistance. The political change in 1988 brought about changes in the country's economic policy with the adoption of a market-oriented policy. Rubber could be planted, produced

and marketed without any restriction. Government controls and quota purchases of the crops produced were abolished and vast land areas were allocated to private entrepreneurs, farmers and planters.

Exports of rubber could also be freely undertaken by the private sector but only for a limited two-year period, after which exports were allowed only after fulfilling the obligatory sale of 45% to the Government at a designated price. The remaining balance (55%) could be exported at the Government's approved price. This system was abolished in 2004 with the total liberalization of the sector. As a result of the adoption of the market-oriented economic policy, along with the encouragement of investment by the private sector, rubber areas increased dramatically.

WHERE WE ARE NOW

CURRENT CONTEXT

Natural rubber is an important export sector in Myanmar. The production of natural rubber has more than tripled over the past decade, reaching a volume of 150,000 tons in 2011-2012 (compared with world production of 11.4 million tons in 2011, see Figure 1).⁵

Of the three main types of natural rubber traded in the international market, namely RSS, TSR and latex concentrate, Myanmar produces only the first two types, i.e. RSS and TSR, and does not produce any synthetic rubber.

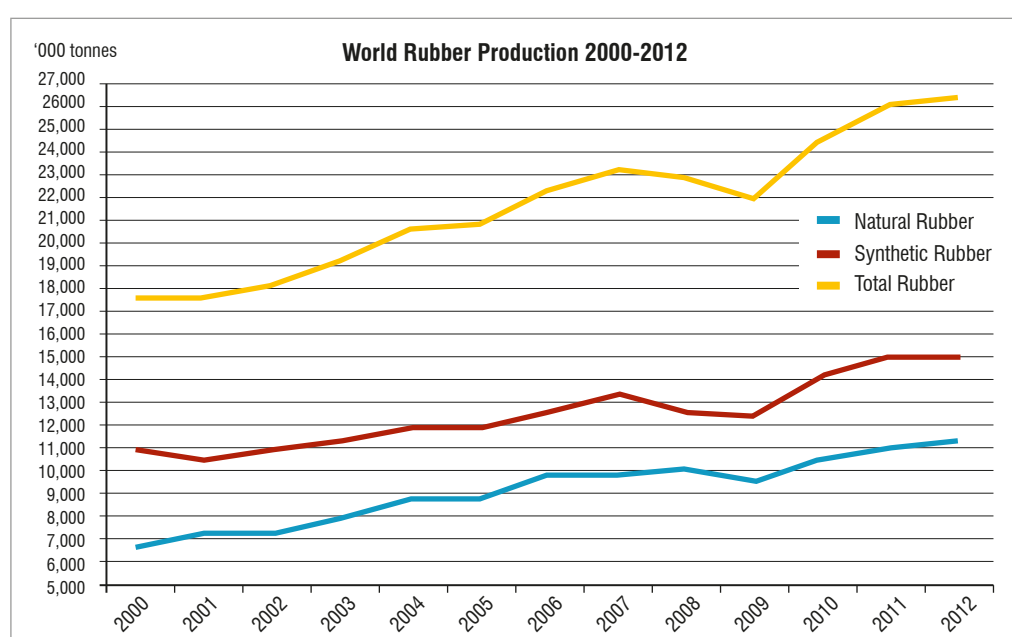
Looking at production structures, it appears that smallholders with less than 20 acres of planting constitute 90%

5. According to the International Rubber Study Group.

of the total number of producers. Entrepreneurs working on rubber plantations larger than 100 acres in size account for only 1%⁶ of total producers. The majority of smallholders produce unsmoked sheets, which are supplied to smokehouse processors to produce RSS. There are many factories owned by private planters and companies that process RSS. After processing, the RSS are graded according to the international standard (see Production section below). A smaller quantity of processed rubber consists of TSR. There are two state-run factories and about 10 private factories that process TSR.

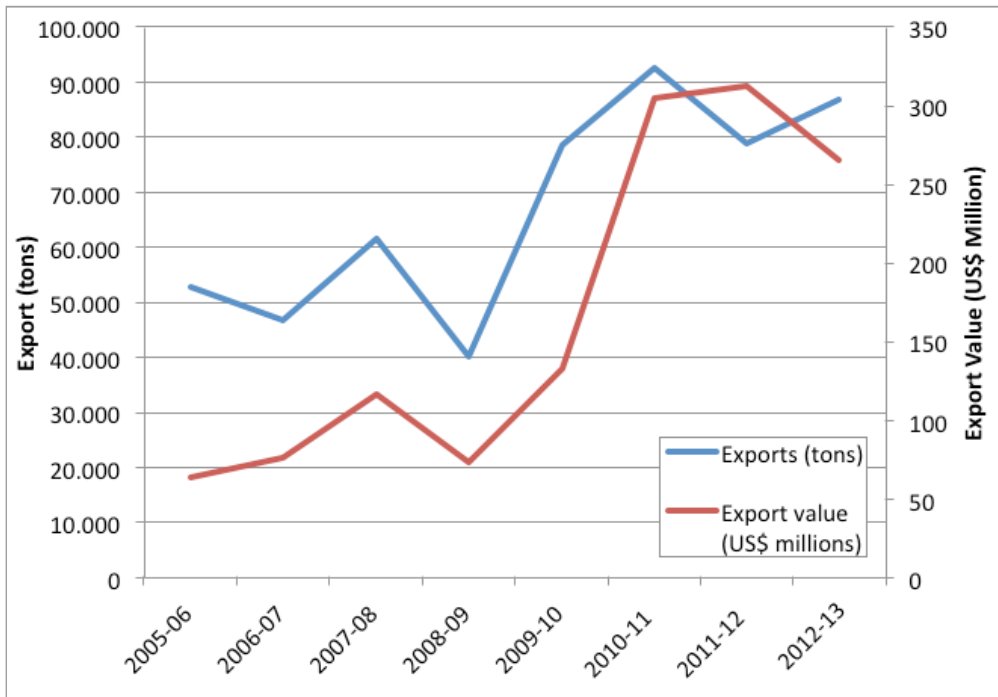
6. Thein, San (2012). Industrial Readjustment in Myanmar: Agro-industrial Preparedness for Integration with the AEC. In *Industrial Readjustment in the Mekong River Basin Countries: Toward the AEC*, Yasushi Ueki and Teetana Bhongmakapat, eds. BRC Research Report No. 7, Bangkok, Thailand: Bangkok Research Center, IDE-JETRO.

Figure 1: World rubber production 2000-2012



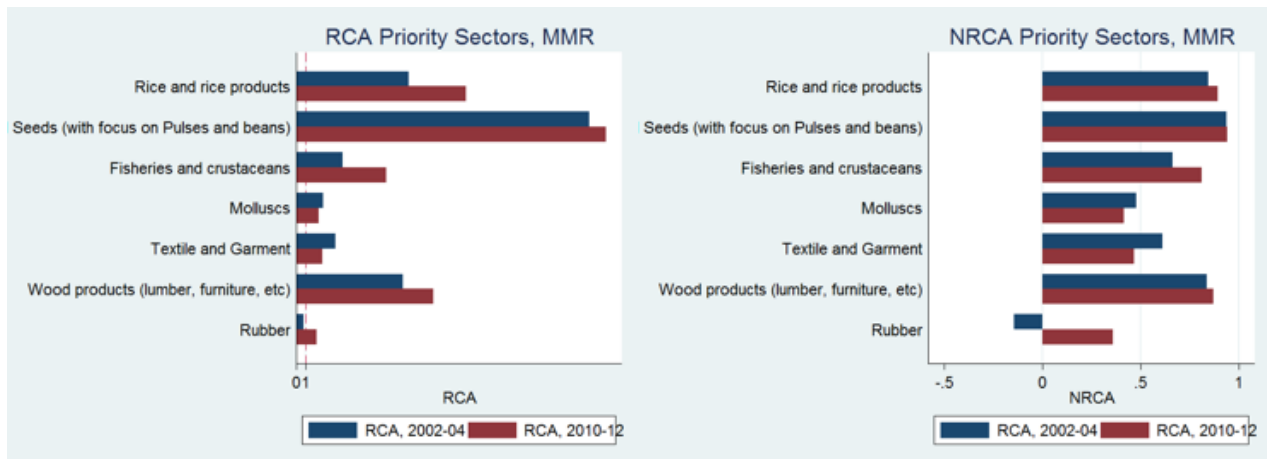
Source: International Rubber Study Group.

Figure 2: Rubber exports (2005-2006 to 2012-2013)



Source: National reported statistics.

Figure 3: Revealed comparative advantage and normalized revealed comparative advantage for Myanmar exports, 2002-2004 to 2010-2012



Source: ITC calculations based on United Nations Comtrade SITC.

Traditionally, rubber in Myanmar is planted mainly in Mon State and Tanintharyi Division, and also moderately in the Bago Division, Yangon Division and Kayin State. Due to expansion in non-traditional areas over the past two

decades, there are some rubber plantation areas emerging in Kachin State, Shan State and Rakhine State.⁷

7. Hla Myint. (2008). Development of rubber planting industry in Myanmar: review and major constraints. Paper presented at IRRDB International Natural Rubber Conference, 13–15 October, Kuala Lumpur, Malaysia.

In 2012, export volume was 86,000 tons (valued at US\$265 million). Natural rubber exports are highly concentrated, with 90% of trade conducted with neighbouring China and Malaysia, these two countries accounted for 76% and 14% of Myanmar's exports respectively. As the industry related to downstream activities – namely manufacturing of rubber products – has barely developed, Myanmar's natural rubber is mainly destined for the export market. Meanwhile, value added manufactured rubber products are imported, mainly from China and Thailand. As a result, and partly due to the recent drop in natural rubber prices, the rubber products sector as a whole reported a trade balance deficit of US\$5.4 million in 2012 after two successive years of surplus.

The sector is facing fierce regional competition as Thailand, Indonesia and, to a lesser extent, Malaysia and Viet Nam, are the leading global exporters of natural rubber. Those four ASEAN countries represent 85% of the world's exports of natural rubber. While Myanmar does not yet compete with these traditional and long-established rubber exporters (Myanmar's world market share was 0.76% in 2012), its continued rise does indicate a strong potential for growth with the view to becoming a key economic actor in the sector. The revealed comparative advantage, however, indicates that even if the sector benefited from a significant gain in competitiveness over the last decade – mainly associated with the opening up of the country's trade policy – the overall competitiveness of the sector remains low compared with other priority sectors in the country, and there is still a long way to go to play a major role in the natural rubber products sector internationally.

SOCIOECONOMIC CONTRIBUTIONS

The highest levels of employment in the sector are concentrated in planting and immature maintenance areas, and tapping or harvesting areas. The development of the sector could have a high socioeconomic impact since the sector can be a driver of job creation. Based on the current 0.9 million acres of planted immature maintenance areas and 0.5 million acres of tapped areas in 2012-2013, the contribution of the sector to employment was estimated to be in the range 350,000 to 400,000 jobs in 2012 (1.4% of total employment), according to the MRPPA.⁸ The development of the rubber products industry could also significantly boost job creation and generate indirect employment alongside the value chain.

Regarding the regulatory environment in Myanmar, it is to be noted that labour laws are in application for manufacturing (industry) operations only. Rubber planters are considered to be farmers, so that they avoid any labour laws and regulations and are solely responsible for the



welfare of their workers. There are therefore no apparent unions in the rubber products sector in Myanmar. The social and environmental conditions surrounding rubber production (including labour rights, workers' use of protective gear, implementation of effective waste disposal methods, use of chemicals, etc.) must be managed in order to strengthen the sector's development potential.

The sector employs women primarily in the business of tapping. Wages in general are low in rubber planting and tapping, while working conditions are difficult. As explained above, there is currently no policy aiming to improve the working conditions of male and female workers in this sector.

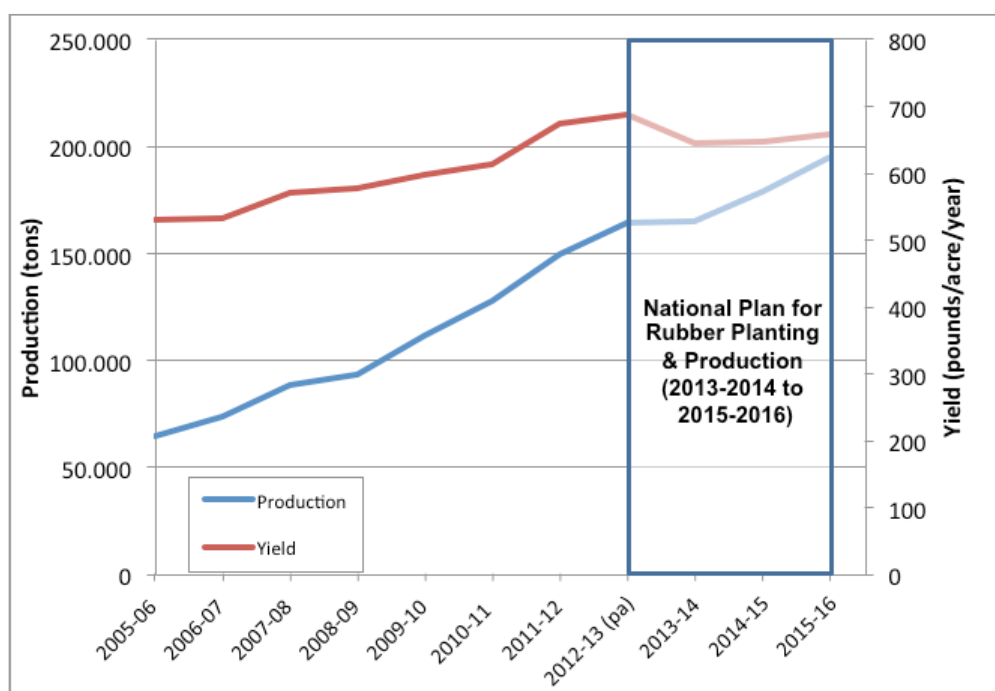
PRODUCTION

The production of natural rubber has more than tripled over the past decade, reaching a volume of 150,000 tons in 2011-2012, with a total tapped area of rubber plantations of 490,000 acres (approximately 200,000 hectares).⁹ Since 2005, and more particularly after the opening up of the economy in 2008, the rapid expansion of cultivated areas raised the level of rubber production at an average annual growth rate of 14% over the period 2005-2013. This production is expected to rise further in the future since the National Plan for Rubber Planting and Production (2013-2014 to 2015-2016) anticipates a production of 195,131 tons by the fiscal year 2015-2016 (see Figure 4).

8. Based on statistics from MoAI and MoC.

9. The total planted area was 1.4 million acres in 2012-2013.

Figure 4: Natural rubber production and yield in Myanmar, 2005-2006 to 2015-2016



Source: National reported statistics.

The plan suggests that the increase in production is mainly obtained by expanding the planted area, as it does not provide for a significant amelioration of the yields in plantations. If the latter have constantly increased at a moderate average annual growth rate of 3.8% since 2005 – from 530 pounds/acre (or 594 kg/ha) in 2005-2006 to 687 pounds/acre (or 770 kg/ha) in 2012-2013 – the productivity of the sector remains very low compared with other producing countries in the region (with average yields ranging between 1,500 and 1,700 kg/ha). This situation can be explained by the use of inferior and outdated plantings, the existence of overage and outdated cultivars in tapping areas, and the use of outdated harvesting techniques, leading to high production costs for rubber. A table presenting the data is presented in appendix 2.

As previously mentioned, Myanmar only produces two types of natural rubber, namely RSS and TSR. In general, the natural rubber produced is of very low quality, with RSS No. 3 and No. 5 and TSR 20 and 50 being the principal grades, which fetch low prices in international markets.¹⁰ Appendix 3 presents the different types and grades of RSS in more detail. Myanmar's rubber production is generally considered to be of low quality due to impurities (rocks, sand, dust, etc.) contaminating produc-

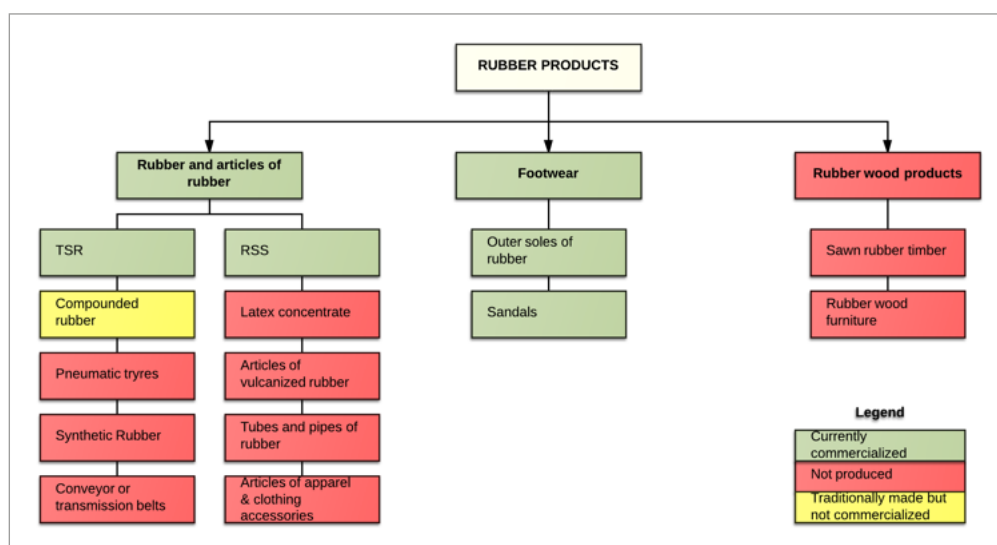
tion processes, reducing value and affecting the ability to diversify into new export markets. Quality is also low due to the lack of quality control systems and third-party certifications as well as limited investments in training and technology.

PRODUCT MAPS

Rubber products can be divided into the following main categories: rubber and rubber-based articles (Harmonized System (HS) 40) and footwear, gaiters and the like which include rubber parts (HS64). Most rubber products produced in Myanmar fall under the first category with natural rubber (HS 4001) being by far the main subsector. Other products under this category include synthetic rubber, compounded rubber, tubes and pipes of rubber, and tyres. The footwear category is also of importance for domestic production as it comprises products such as shoe soles and other articles of footwear. It is to be noted that products resulting from the exploitation of rubberwood could also be developed. The production of other products such as mattresses, rubber rice rollers, or headgear of rubber, among others, could also be considered but have not been included in Figure 5.

10. (i) RSS is graded and marketed according to the international type specification of RSS No. 1 to No. 5. (ii) TSR is graded according to Myanmar's own specification of Myanmar Standard Rubber 5, 10, 20 and 50 respectively, where 5 refers to the highest quality.

Figure 5: Rubber products map



VALUE CHAIN OPERATIONS

PRE-PRODUCTION AND INPUT SOURCING

The first step in the value chain is pre-production, or the cultivation of rubber trees (*H. brasiliensis*). At this stage, land is prepared and rubber trees planted. These trees must be allowed to grow for about seven years before they become viable for harvesting rubber. Once the trees have reached the appropriate level of maturity they will be tapped.

The main production inputs include fertilizers, herbicides, planting materials and lands. Input supply is often of low quality and expensive as there is a heavy reliance on imports for most inputs. It is here that the necessary financial and agricultural inputs are acquired by producers. The key actors at this stage are rubber planters and 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.

PRODUCTION / TAPPING

The tapping stage includes fertilization, treatment against fungi, and the actual tapping operation or harvesting of crops. It also involves the acquisition of equipment and the use of skilled workers. Production is mainly performed by individual farmers who are, most of the time, owners of the rubber land in smallholdings. The latex is then collected and sent for processing into unsmoked sheets or RSS rubber.

DISTRIBUTION

Collectors and traders of raw materials are the link between planters/producers and processing factories. A number of levels of collectors and traders exist along the value chain. Their main role is financing producers and other collectors down the chain and providing transport.

PROCESSING

Freshly tapped latex can be made into various rubber categories by different processing methods. Rubber processing in Myanmar is mainly in the form of TSR and RSS. Traditionally, natural rubber has been made into sheets and has also been traded as crepes. RSS production from latex occurs in either factory-scale facilities (on estates and larger smallholdings) or in micro field units (individual smallholdings). Despite its variability in scale, it always includes the following operations: blending, coagulation, milling, drying and finishing. There is not really enough information available to identify the capacities of individual processing factories though.

The main production inputs to process rubber include utensils such as coagulation tanks, mesh and trolleys, clean water, chemicals, smokehouses and sheeting rollers (for RSS), process machinery and dryers (for TSR), energy, and packaging materials such as weighing machines and press boxes.

Processing involves transporting of goods. At this stage, production is mainly handled by local collectors of raw materials and processing factories. External support is provided by transport companies, packaging suppliers and testing laboratories for TSR (foreign).



(cc) Sean Beesley. Latex sample in cups at RSS factory

MANUFACTURING

Myanmar supplies its natural rubber mainly to overseas industries in China and Malaysia, local industries playing only a minor role in the value chain. Of these local rubber products manufacturers, the general rubber goods industry (producing automotive parts, rubber bands, etc.) and traditional rubber sandals industry are the most developed. Myanmar has a total of four tyre factories, two state-owned under the Ministry of Industry (MoI), one in the private sector (Yangon Tyre Factory) and a recently commissioned (2013) one owned by the Myanmar Economic Corporation, a conglomerate which is operated by Myanmar's military. For domestic transformation, produce is channelled to local rubber industries either directly from processing factories or through a purchase depot. The transformation of natural rubber in Myanmar is costly as it relies heavily on imports for most inputs required, including chemicals, production machinery, testing equipment and synthetic rubber, among others.

DISTRIBUTION TO MARKET

The final rubber products end up either in the local retail market or in export markets. The vast majority of Myanmar rubber exports, however, consist in processed natural rubber (RSS and TSR), to be transformed in export markets. Rubber buyers and traders buy raw rubber from planters/producers and sell it 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. Global rubber products manufacturers deal through brokers rather than directly with local processors. MRPPA also arranges seller-buyer matching between local exporters and foreign buyers.

Myanmar's current value chain is presented in Figures 6 and 7.

Figure 6: Current value chain



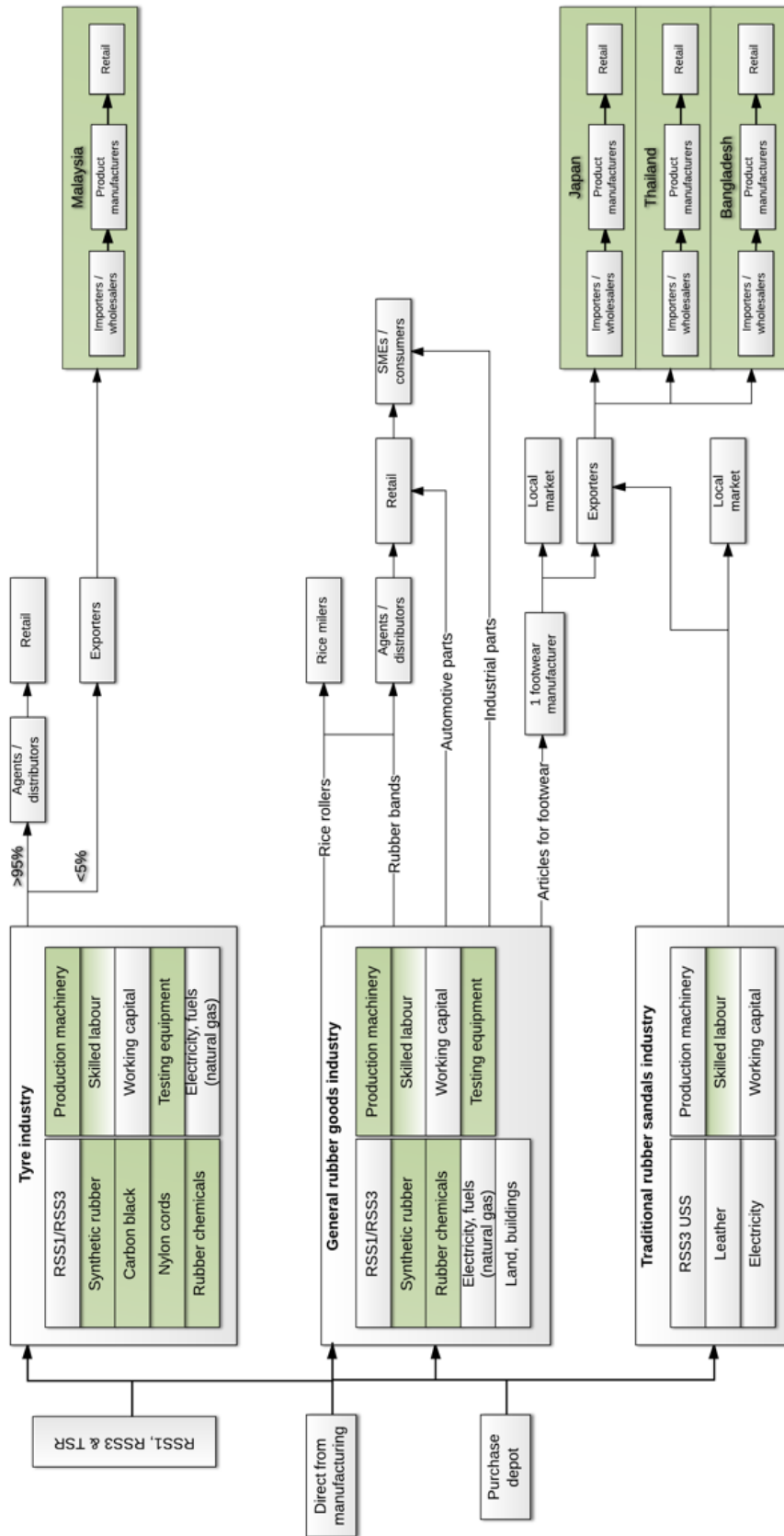


Figure 7: Current value chain (processing)

Box 2: Prohibitive taxation imposed on rubber exporters in Myanmar

Rubber products exporters have to bear the significant cost of several cumulative taxes in Myanmar. Firstly, the Ministry of Finance and Revenue levies an advance 2% tax for exporters, the 'income tax in advance'; income that is then taxed according to the rate of income. Secondly, a corporate tax of 25% is imposed on companies. Finally, rubber is the only agricultural commodity subjected to 5% commercial tax, compared with all other agricultural products which are free from commercial tax. In the end every transaction is taxed three times.

Other charges also have to be borne by exporters, such as the online licence fees for membership to MRPPA for each ton exported (the range is between 100 and 1,000 kyats). On top of these compulsory taxes, informal bribes often have to be paid to export commodities.

Informal fees: 10,000 kyats for the licence (irrespective of size of shipment).

ROLE OF INVESTMENT

Net FDI outside of the sector of gas has remained very low, with a small exception for the garment and textile sector. Both FDI and domestic investment are seen as essential to accompany the ambitions of the rubber products sector in Myanmar, a sector that lacks adequate investment in capital, knowledge and new technologies. FDI is non-existent in the rubber products sector in Myanmar. Though there appears to be exploratory interest in the sector, foreign partners are not yet willing to invest in the sector, despite the absence of restrictions on FDI.

The main reasons for the historically low investment levels are:

- The existence of sanctions against Myanmar;
- Low regulatory environment and inadequate Customs system;
- Inadequate provisions for investor protection (assets cannot be used as collateral, for instance);
- Prohibitive taxation for the repatriation of profits (see Box 2);
- Uncertain political and socioeconomic environment;
- Unfair trade practices and lack of competition policies;
- Restrictive trade licensing schemes;
- Undeveloped financial intermediation;
- Poor physical infrastructure and logistical services, particularly for plantations located in remote areas;
- Lack of technology and know-how;
- Inadequate access to electricity, etc.

A number of these areas have been addressed or are in the process of being addressed, and are expected to lead to better domestic and foreign investment levels.

So far, FDI initiatives have been in the form of cooperation – similar to a memorandum of understanding, which describes an agreement between several parties – but no technological transfer or direct investment have occurred

yet. Although joint ventures and strategic alliances are currently being discussed between major local companies and economic operators from Malaysia and Thailand, achievement in creating such partnerships is weak, even between domestic enterprises. Factors of attraction exist, however, in the natural rubber products sector in Myanmar, including:

Human resources: cheap workforce and low cost of production;

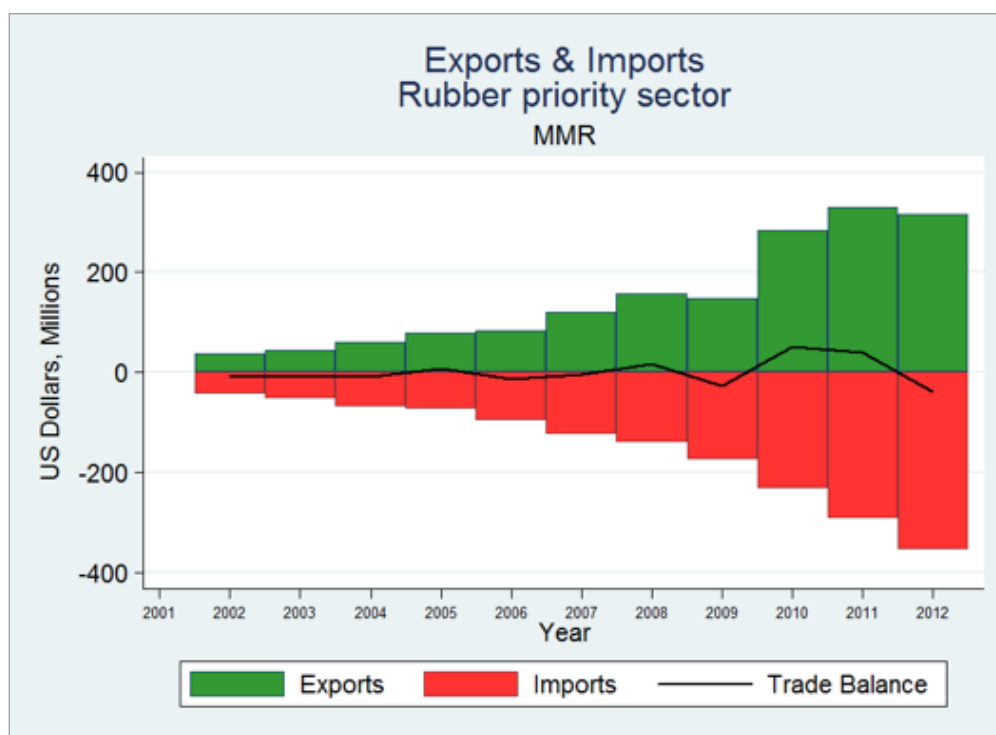
- Low land costs;
- Abundant land resources and the existence of vast areas of vacant lands suitable for rubber, mainly in the states/divisions of Shan, Tanintharyi, Bago and Rakhine;
- Proximity of numerous plantations to industrial zones;
- Great export potential;
- Low level of competition locally;
- Opening up of the economy and commitment to economic reforms;
- Absence of restrictions on FDI.

IMPORTS

IMPORTS OF PRODUCTION INPUTS

There is heavy reliance on imported inputs such as fertilizers, chemicals and machinery, which are mainly imported from China due to the weak domestic supply base for these inputs. Fertilizers, herbicides and fungicides are particularly important for planters to ensure satisfactory yields and production of raw material. At the processing level (RSS and TSR), imported production inputs mainly consist of chemicals and machinery, and more complex inputs – such as synthetic rubber, testing equipment, rubber chemicals and machinery for working rubber – are imported at the industry level.

Figure 8: Myanmar imports and exports for the rubber products sector, 2001-2012



Source: ITC calculations based on Comtrade SITC.

IMPORTS OF RUBBER PRODUCTS

In theory, natural rubber production in Myanmar should be sufficient for producing final rubber products for the domestic market. In practice, however, the country exports raw rubber and imports value added processed rubber products for its domestic market.

Imports of value added processed rubber products have been gradually increasing in recent years. After two consecutive years showing a positive trade balance, the rubber products sector reported a deficit of US\$5.4 million in 2012¹¹ (Figure 8). In addition to the reliance on imports for finished goods, the trade balance has been severely impacted by the recent drop in natural rubber prices (the subsector accounts for more than 90% of the sector's exports).

Apart from a few instances of imports from suppliers in Singapore and India, with imported value of US\$ 16.4 million and US\$ 13.8 million worth of rubber products respectively, the majority of imports in Myanmar for rubber and articles thereof (HS 40) are sourced from China and Thailand, accounting for 44% and 32.7% of Myanmar's imports of rubber products respectively. Based on the



list of products imported, it appears that 'new pneumatic tyres, of rubber' (HS 4011) is by far the most imported product, accounting for 70% of the sector's imports in 2012 (US\$ 155.8 million) (see table 1).

11. ITC –HS code 40– rubber and articles thereof, 2012.

Table 1: List of products at four-digit level imported by Myanmar in 2012 (mirror data) – detailed products in the category: 40, rubber and articles thereof

Code	Product label	Imported value 2012 (US\$ millions)	Main suppliers	
			Country	Imported value (US\$ millions)
4011	New pneumatic tyres, of rubber	155.8	China	76
			Thailand	42.5
4013	Inner tubes of rubber	26.3	China	204
			Thailand	3.4
4010	Conveyor or transmission belts or belting of vulcanized rubber	10.0	China	6
			Thailand	3.3
4016	Articles of vulcanized rubber other than hard rubber, n.e.s.	9.0	China	4.2
			Thailand	3
40	Rubber and articles thereof	220.8	China	97.2
			Thailand	72.1

Source: ITC calculations based on United Nations Comtrade statistics.

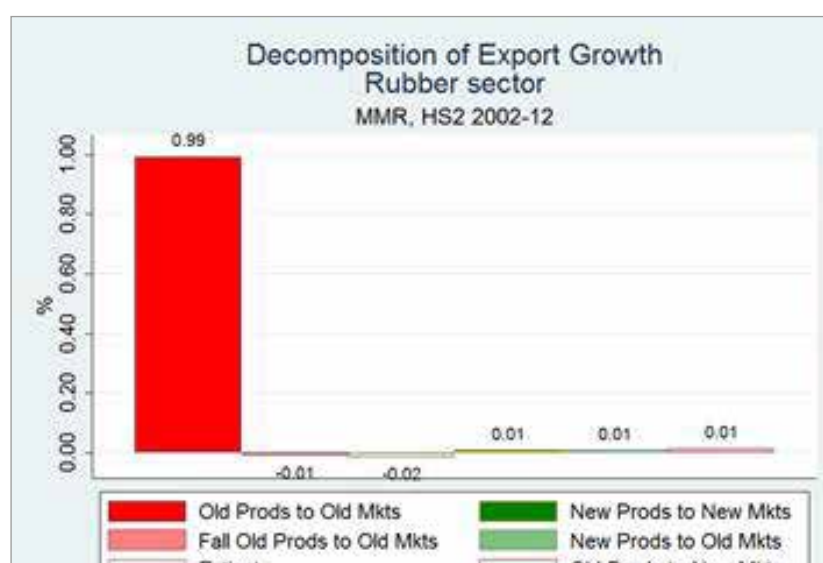
GLOBAL PERSPECTIVE

WORLD RUBBER CONSUMPTION

According to the International Rubber Study Group, total rubber consumption worldwide, irrespective of its type, reached 26 million tons in March 2013 (see Figure 9). It is to be noted that 80% of this consumption of rubber is used for the automotive industry.¹²

12. According to the Centre for International Cooperation in Agricultural Research for Development.

Figure 9: World rubber consumption 2000-2012



Source: International Rubber Study Group.

Table 2: Leading global importers of natural rubber, balata, gutta-percha, etc. (HS code 4001)

Rank	Importers	Value imported in 2012 (US\$ millions)	Annual growth in value 2008-2012 (%)	Annual growth in value 2011-2012 (%)	Share in world imports (%)	Average tariff (estimated) applied by the country (%)
	World	27 419	20	-27	100	
1	China	6 811	24	-27	24.8	6.6
2	United States	3 544	18	-29	12.9	0
3	Japan	2 506	14	-36	9.1	0
4	Malaysia	2 493	26	9	9.1	0
5	Republic of Korea	1 373	20	-29	5	0
6	Germany	1 272	25	-38	4.6	0

Source: ITC calculations based on United Nations Comtrade statistics.

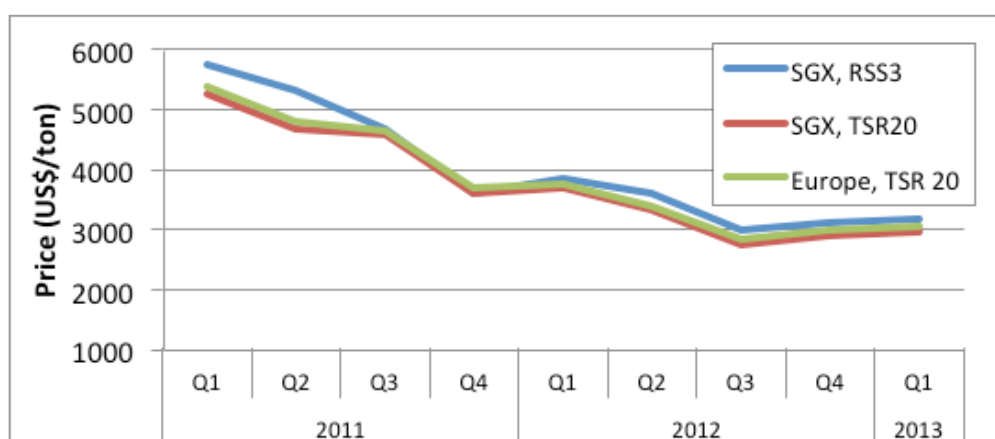
GLOBAL IMPORT TRENDS FOR NATURAL RUBBER

The global market size for rubber and articles of rubber (HS 40) stood at US\$216 billion in 2012, reflecting an annual growth rate of 12% between 2008 and 2012. Although China is the second largest importer of rubber products with more than US\$20 billion worth imported in 2012, Western markets are the main importing markets for these products, led by the United States (accounting for 13.9% of world imports) and Germany (7.8%).

Taking a closer look at global markets for natural rubber, China exhibited a strong growth rate of 24% between 2008 and 2012, in line with the global growth average during the same time (20%). As indicated in Table 2, the country is the leading importer with more than US\$6.8 billion worth of natural rubber imported in 2012, followed by the United States (US\$3.5 billion) and Japan (US\$2.5 billion). India's demand is also booming, with an annual growth in value of 47% between 2008 and 2012.

It is to be noted that China applies an estimated average tariff of 6.6% on natural rubber imports (ITC). According to the key stakeholders in the sector in Myanmar, the rate of protection imposed by China would peak at 37% on imported rubber, owing to a combination of tariffs and domestic taxes.

Although world demand for natural rubber grew at an average annual rate of 21% in value between 2008 and 2012, the sector has been facing a reduction in world demand since 2011, with world imports decreasing by 29% in value in 2011-2012. Coupled with the continuous expansion of the world's natural rubber supply, this contraction in demand led to a drop in the natural rubber export price. From around US\$5,500 in 2011, the price of a ton of natural rubber reached US\$3,000 in the first quarter of 2013, as illustrated in Figure 10. A direct consequence of the drop in prices is the fall in the value of world imports, which fell by 29% in 2011-2012.

Figure 10: Natural rubber price (US\$ per ton), 2011 to Q1 2013

Source: Data taken from: International Rubber Study Group (2013). *Rubber Statistical Bulletin*, July-September.

Table 3: Leading global exporters of natural rubber, balata, gutta-percha, etc. (HS code 4001)

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	25 773	20	-31	100
1	Thailand	8 746	18	-34	33.9
2	Indonesia	7 865	20	-33	30.5
3	Malaysia	2 546	14	-41	9.9
4	Viet Nam	1 953	40	11	7.6
5	Côte d'Ivoire	927	23	-17	3.6

Source: ITC calculations based on United Nations Comtrade statistics.

GLOBAL EXPORT TRENDS FOR NATURAL RUBBER

Thailand and Indonesia are the leading global exporters of natural rubber, followed by Malaysia and Viet Nam. Together, Thailand and Indonesia command a 64% share of world exports, with an annual growth rate of 18% and 20% in value between 2008 and 2012, respectively. Viet Nam is catching up, with a growth rate of 40% in value during this period (Table 3).

With four ASEAN member states holding the highest ranking positions, the ASEAN region takes on the lion's share of natural rubber exports, accounting for 84.8% of world exports. In the region, Cambodia and the Lao People's Democratic Republic also aim to become major international actors with annual growth for natural rubber exports of 75% and 45% in value between 2008 and 2012, respectively. With the exception of Viet Nam, leading exporters of natural rubber reported a sharp decrease in annual growth in value for the period 2011-2012, as a result of a drop in natural rubber prices on international markets.

Box 3: The case of Viet Nam

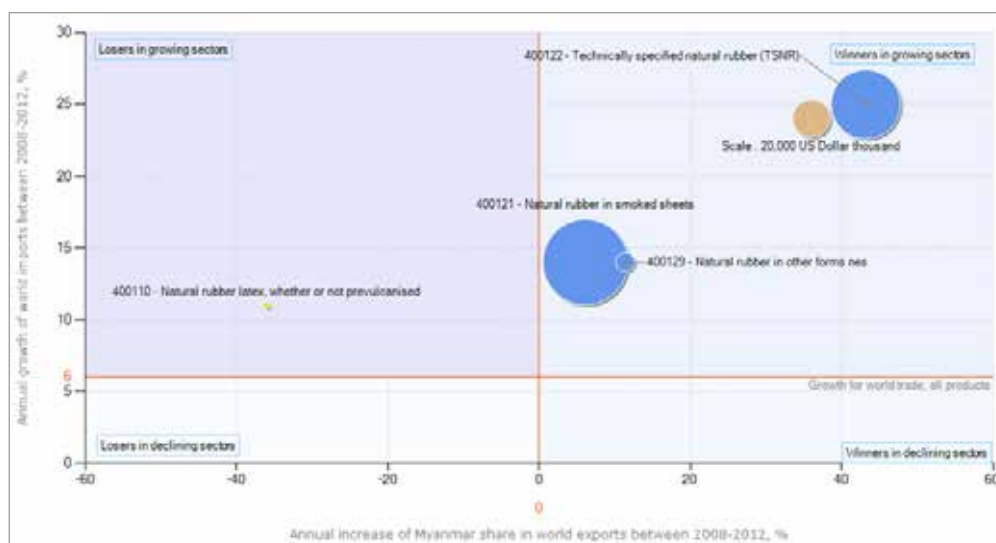
Viet Nam is one of the most dynamic exporters of natural rubber on the international scene, with an annual growth in exports of 40% in 2012. Its share in world exports reached 7.6%, placing the country as the fourth largest exporter after Thailand, Indonesia and Malaysia. The natural rubber products sector has been booming in recent years, increasing its world market share by 16.7% in 2012, with natural rubber exports reaching US\$1.9 billion in value that year.

Although China and Malaysia remain Viet Nam's main target markets for natural rubber exports, accounting for 28.7% and 25.1% of the country's total exports respectively, Viet Nam has actively diversified into new markets, tapping into key Western international markets such as the United States, the EU and Japan, thereby demonstrating the quality of its production. The country has also developed – and is still developing – strong trade relations with India, a key market for natural rubber exports, as Viet Nam can benefit from the country's booming demand for this product (the annual growth in value for natural rubber imports was 47% between 2008 and 2012). In 2012, the share of Viet Nam in India's imports was 19.3%.

Looking at the products exported, it appears that the bulk of the country's rubber exports consist of raw natural rubber, with the subsector accounting for 68% of sector exports in 2012 (compared with 90% for Myanmar). It is also to be noted that while Myanmar is still producing mainly RSS, Viet Nam predominantly produces TSR, the latter accounting for 72% of the natural rubber exported by the country in 2012.

However, although significant progress has been made to diversify rubber products in the country – as illustrated by the emergence of the tyre industry – the country has not yet managed to develop higher value added products and still relies on imports to supply its domestic market.

Figure 11: Growth of international supply and international demand for export products of Myanmar



In blue: Myanmar is a net exporter for this product

Source: ITC calculations based on United Nations Comtrade statistics.

MYANMAR'S EXPORT PERFORMANCE

The broader sector of 'rubber and articles thereof' is Myanmar's ninth largest export product –accounting for 2.2% of the country's exports in 2012– and remains relatively small in terms of value exported (US\$215.3 million¹³), far behind mineral fuels, the top exported product with an exported value of US\$3.5 billion that same year.

The level of product diversification is extremely low, with 90% of the rubber products exports consisting of natural rubber (HS code 4001). Exports in this subsector totalled US\$195.6 million in 2012, with 57,775 tons of natural rubber exported that year (ITC).¹⁴ The country is also exporting soles of rubber for footwear with an exported value of US\$109.8 million, mainly to Japan.

Driven by a strong 32% annual growth in value of natural rubber exports between 2008 and 2012, thereby outperforming the 20% global import growth over the same time period, Myanmar is continuously increasing its world market share for natural rubber (+10% in 2012), thereby slowly catching up with the leading natural rubber exporters in

the region. Nevertheless, despite Myanmar's booming exports of natural rubber, the country remains a small player in the global natural rubber market, ranking thirteenth in world exports with a global share of 0.76% in 2012.

Looking more closely at Myanmar's performance for the natural rubber subsector, it appears that the country exports almost exclusively two types of products: namely RSS (HS 400121) and technically specified natural rubber (HS 400122), with exported values of US\$115.8 million and US\$75.4 million in 2012, respectively. The quality of these products is overall in low grades (RSS 3 and Myanmar Standard Rubber 20) as reported in Table 4.

13. ITC calculations based on United Nations Comtrade statistics.

14. Local authorities reported a total of US\$265.3 million worth of natural rubber exported that same year. The difference between these figures can be partly attributed to China underreporting its imports because of its 37% tax on imported rubber, which is aimed at protecting national rubber plantations. As demand is strong, however, the country is importing rubber from Myanmar illegally and reporting it as its own.

Table 4: Myanmar natural rubber exports by product kind, 2012-2013

Rubber grade	RSS 1	RSS 2	RSS 3	RSS 5	Myanmar Standard Rubber 5	Myanmar Standard Rubber 20
Tons	1 128	0.23	55 641	2 056	86	24 188
US\$ millions	3.33	0.83	170.25	6.12	0.3	72.48
Rubber grade	Myanmar Standard Rubber 50	Crepe	Rubber sheet	Rubber	Cuttings	Total
Tons	2 729	88	15	482	468	86 881
US\$ millions	9.01	0.23	0.02	1.39	1.29	265.25

Source: National reported statistics.

Despite an increase in the volume exported (from 51,506 tons in 2011 to 57,775 tons in 2012), revenues generated from exports of natural rubber decreased in 2012 compared with 2011 (from US\$223.2 million in 2011 to US\$195.6 million in 2012), as a result of the price

depreciation of rubber in international markets.¹⁵ The financial stability of the sector is therefore fragile as the price of natural rubber continues to fall, mainly driven by weakened Chinese demand.

15. ITC calculations based on United Nations Comtrade statistics.

Table 5: Major rubber products exported by Myanmar, 2008-2012

HS code	Product label	Myanmar exports (annual growth in value, %, per annum)	World exports (annual growth in value, %, per annum)
		(2008-2012)	(2008-2012)
4001	Natural rubber, balata, etc.	32	20
		Exported value in 2012 (US\$ millions)	Main target markets
400121	Natural rubber in smoked sheets	115.8	China (68.2) Malaysia (47.2)
400122	Technically specified natural rubber	75.4	China (46.6) Republic of Korea (14.2) Malaysia (14.2)
640399	Footwear, outer soles of rubber/plastics uppers of leather, n.e.s.	79.0	Japan (70.6)
640391	Footwear, outer soles of rubber	30.1	Japan (28.5)

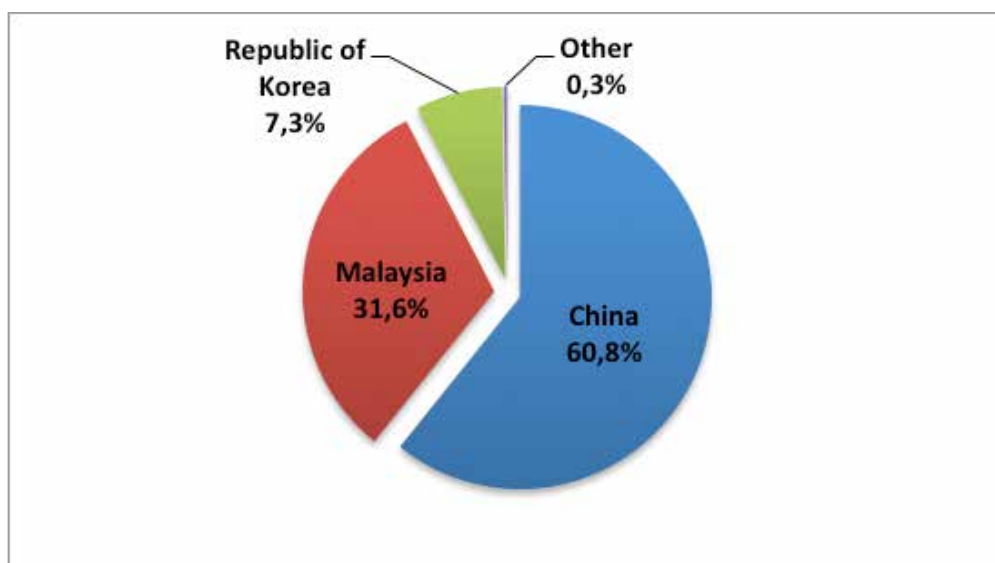
Source: ITC calculations based on United Nations Comtrade statistics.

EXPORT DIVERSIFICATION AND INTENSIFICATION

Sanctions have shaped Myanmar's existing export structures and have led to a market orientation 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 weak trade facilitation framework.

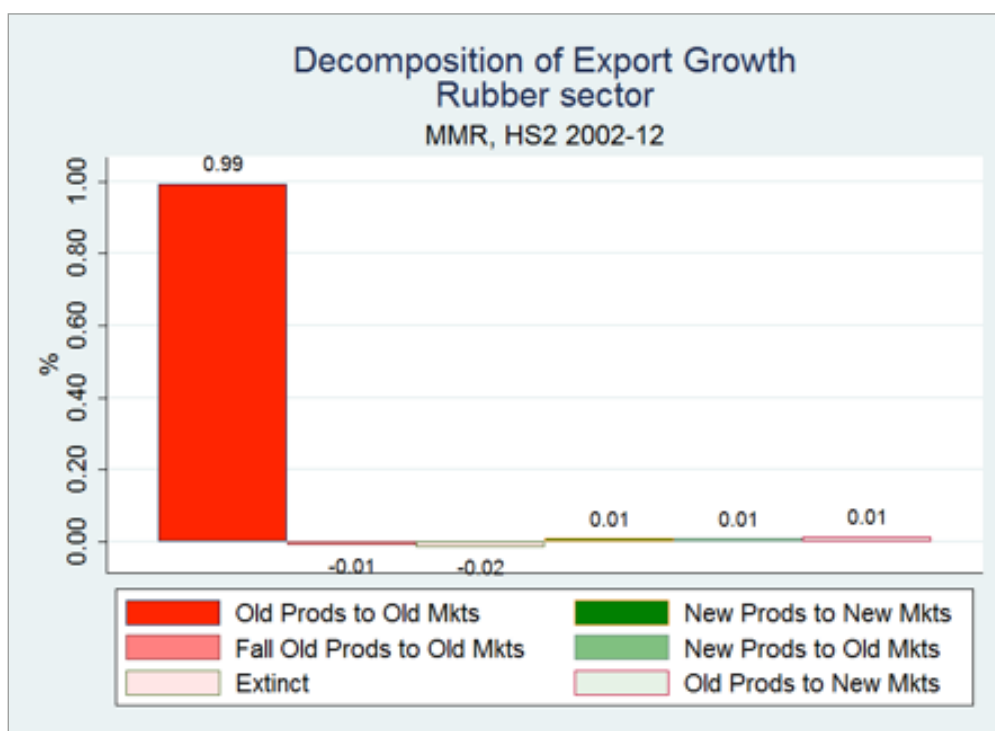
As indicated in Figure 12, Myanmar's exports are highly dependent on the neighbouring Chinese and Malaysian markets. These two countries accounted for 61% and 32% respectively of the natural rubber exported by Myanmar. This also indicates the high degree of concentration of the country's exports.

Figure 12: Importing markets for natural rubber exported by Myanmar (2012)



Source: ITC calculations based on United Nations Comtrade statistics.

Figure 13: Myanmar, decomposition of export growth, rubber products sector, 2002-2012



Source: ITC calculations based on United Nations Comtrade SITC.

DECOMPOSITION OF EXPORT GROWTH

The decomposition of export growth indicates that Myanmar's exporters have been unable to diversify their product base in new markets, and that growth is exclusively driven by exported products being exported to existing markets, with existing flows to current destinations accounting for 99% of growth. Figure 13 shows the decomposition.

With the reinstatement of trade preferences by the EU and the easing of sanctions by the United States, Myanmar can promote its trade to new markets. Diversifying into higher income and growth markets will be a source of economic growth that reduces vulnerability to possible shifts in market conditions among traditional trading partners. At the moment, looking at the leading importers of natural rubber, it appears that Myanmar is not yet tapping into the following major markets: United States (13% of world imports), Japan (9%), Germany (5%) and India (4%).

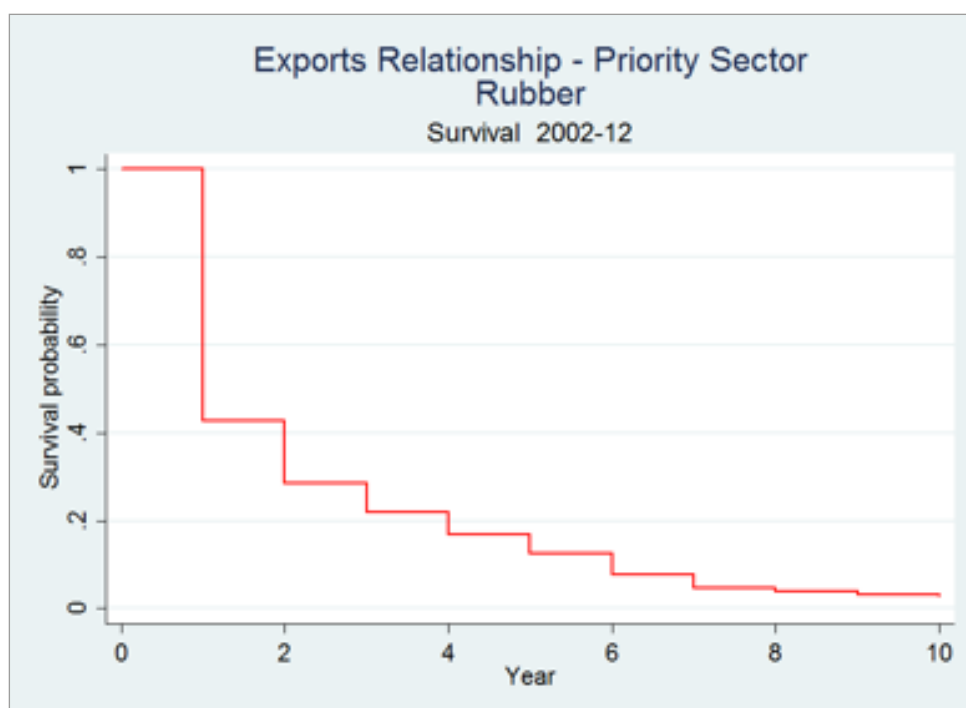
SURVIVABILITY AND SUSTAINABILITY OF EXPORT RELATIONSHIPS

Figure 14 indicates the probability that an export relationship survives one year, two years, up to 10 years. In the rubber products sector in Myanmar, the probability of export relationships surviving until the second year is 0.28 (on a 0–1 scale), and the probability of maintaining a relationship for five years is 0.12. This probability falls to 0.03 after 10 years.

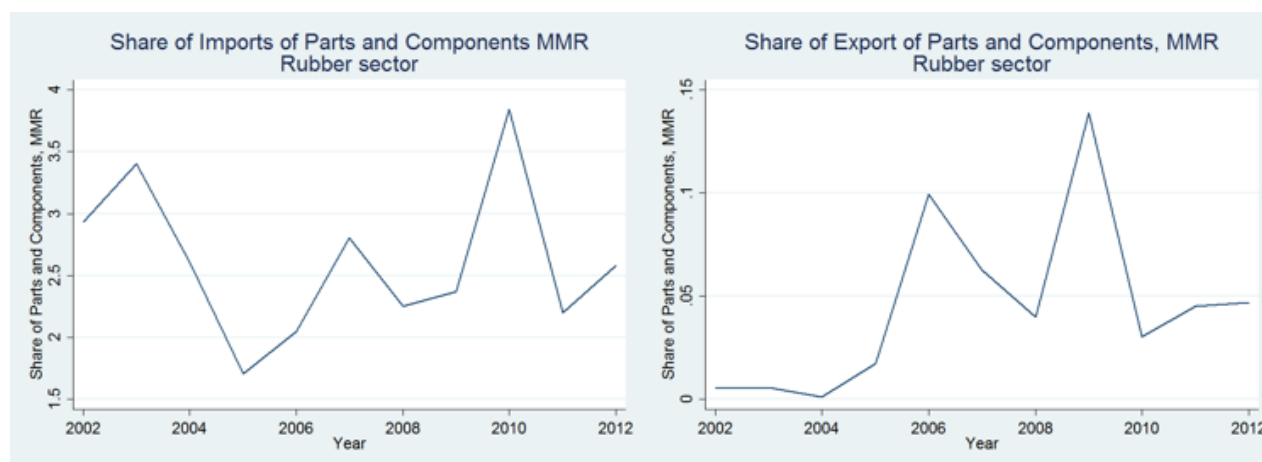
PARTICIPATION IN INTERNATIONAL VALUE CHAINS

The share of imports of parts and components in the sector has fluctuated over the past 10 years: Myanmar's share in global or regional supply chains has actually declined, from 3% in 2002 to 2.5% in 2012. This indicates that the assembly activity of the rubber products sector remains extremely low. The share of parts and components in manufactured exports for Myanmar is nil or almost nil in the rubber products sector (approximately 0.05% in 2012), indicating that the country is not integrated in the global supply chain.

Figure 14: *Survivability of export relationships in the rubber products sector, Myanmar*



Source: ITC calculations based on United Nations Comtrade SITC.

Figure 15: Share of imports and exports of parts and components, Myanmar rubber products sector, 2002-2012

Source: ITC calculations based on United Nations Comtrade SITC

COMPETITION IN TARGET MARKETS

As described in the previous section, the export basket for rubber products is poorly diversified – consisting almost exclusively of RSS and technically specified natural rubber – and the export destinations remain fairly concentrated (China and Malaysia accounting for 90% of the country's exports). China, which is the world's highest importer of rubber products, purchases almost all types and grades produced by Myanmar. Malaysia, which is a large rubber producer and net exporter, is purchasing Myanmar's inferior grades of rubber to process into value added higher grades and for tyre production. The Republic of Korea also purchases Myanmar's rubber to produce tyres, and seeks quality and regular supplies of rubber from Myanmar.

The main issue for Myanmar's rubber in the international market is quality. Myanmar, with its inferior rubber quality without any guarantee and certification system, needs to build its image, and accordingly is not receiving prevailing international market prices. As a result, and despite the lifting of the ban imposed on Myanmar's exports, exporters have been unable to penetrate key Western international markets such as the United States, Japan or the EU. Several issues remain unresolved to access these markets, such as, among other things, the quality requirements necessary to penetrate the United States, EU and Japanese markets.

Many factors can explain the major barriers to export development. The four gears section of this document provides key information for understanding the challenges to the export performance of the sector.

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 6 to 9 identify the main TSIs whose service delivery affects the rubber 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 rubber products sector. In other words, the assessment was conducted based stakeholders' evaluation of TSIs from the perspective of how well they serve rubber products sector stakeholders.

POLICY SUPPORT NETWORK

The institutions in the policy support network represent ministries and competent authorities responsible for influencing or implementing policies at the national level.

Table 6: Myanmar rubber products sector policy support network

Name of institution	Description of TSI in line with sector	Coordination *	Human capital **	Financial sustainability ***	Advocacy ****
Ministry of Environmental Conservation and Forestry • Forestry Department	• Management of forestry land	L	L	L	L
MoAI • Settlement and Land Records Department • Department of Industrial Crop Development (DICD) » ARCPC » Research Technology & Training Centre for Rubber Products (RTTCRP)	• Land usage • Planting and production techniques • Planting material production • Research and development (R&D) in upstream and downstream industries of rubber • Training and education	M	M	L	L
Mol • No. 2 Heavy Industries Enterprise (No. 2 HIE) (State-owned enterprise but in the process of privatization) • Central Department of Small and Medium Enterprises Development • Directorate of Industrial Supervision and Inspection	• Issues business licences • Has started standardization • Manages State-owned enterprises • Promotion of small and medium-sized enterprises	M	M	L	L
Ministry of Commerce (MoC) • Trade Promotion Department • Department of Commerce and Consumer Affairs • Directorate of Trade (including Trade Training Institute)	• Trade promotion (fairs, business matching, trade information) • Statistics • Trade policies • Import/Export licences • Border control • Training • <i>Commerce Journal</i>	M	M	L	M
Ministry of Science and Technology • Myanmar Scientific and Technological Research Department	• Research on products, including polymers and rubber	L	M	L	L
Ministry of Finance and Revenue (MoFR) • Customs • Myanma Foreign Trade Bank • Myanmar Investment and Commercial Bank • Myanmar Economic Bank	• Customs and trade facilitation • Foreign exchange • Commercial bank lending rules	L	L	L	L
Ministry of Transport • Myanmar Port Authority	• Shipments and clearance of commodities at port	L	L	L	L

Name of institution	Description of TSI in line with sector	Coordination *	Human capital **	Financial sustainability ***	Advocacy ****
Ministry of Foreign Affairs • Commercial attachés/trade counsellors	• Trade and investment intelligence and promotion (relatively new)	M	L	L	M
Ministry of Labour, Employment and Social Security	• Planters are not registered under this Ministry because they are classified as farmers • Factories must comply with the rules and regulations of this Ministry	L	L	L	L

* Coordination with other TSIs: 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 assessment: assesses the general level of capability of this institution's staff in terms of their training and responsiveness to sector stakeholders.

*** Financial resources assessment: assesses the financial resources/capacity available to the institution to provide service delivery in an efficient manner.

**** Advocacy: assesses 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.

Table 7: Myanmar rubber products sector trade services network

Name of institution	Description of TSI in line with sector	Coordination	Human capital	Financial sustainability	Advocacy
Subcommittee for the Standardization of Rubber and Rubber-Based Products (under the chairmanship of Mol)	• Made up of public and private stakeholders • Still at inception phase (established in 2012)	M	M	L	M
MRPPA (including branches at state and regional levels)	• Training • Information • Events • Intermediary between Government/producers and lobby (recommend free on board price to Government) • Member of International Rubber Research and Development Board	H	L	L	M
Union of Myanmar Federation of Chambers of Commerce and Industry (UMFCCI)	• Role with trade delegations • Trade fairs • Business matching • Training (business), market access, etc.	M	L	L	M

Table 8: Myanmar rubber products sector business support network

Name of institution	Description of TSI in line with sector	Coordination	Human capital	Financial sustainability	Advocacy
Myanmar International Freight Forwarders Association	Facilitates shipment and Customs clearance	L	L	L	L

Table 9: Myanmar rubber products sector civil society network

Name of institution	Description of TSI in line with sector	Coordination	Human capital	Financial sustainability	Advocacy
General media for information on rubber (television, radio, newspapers)	Media	H	H	M	H
eTrade Myanmar	Private media	L	M	M	L

BUSINESS SUPPORT NETWORK

These are associations, or major representatives, of commercial services providers used by exporters to effect international trade transactions.

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.

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's rubber products sector stakeholders, several institutions have been identified as being significantly limited in terms of coordinating their service delivery. Those identified are the Ministry of Environmental Conservation and Forestry, the Ministry of Science and Technology, MoFR, the Ministry of Transport, the Ministry of Labour, Employment and Social Security, and the Myanmar International Freight Forwarders Association, which 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 skills levels of the staff of

these institutions, together with a need for organizational alignment. The few institutions considered as having adequate human resources are the Subcommittee for the Standardization of Rubber and Rubber-Based Products, MoAI, Mol, MoC, the Ministry of Science and Technology, and the media entities.

From the perspective of financial stability, media entities are the only institutions considered to possess adequate financial resources to complete their mandate. The fact that most institutions are considered financially constrained may stem from decades of isolation and the country's allocation of public budgets away from industrial development in general. Poor financial intermediation and difficulties in accessing finance also explain the difficulties faced by private sector organizations.

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 rubber products. None of the institutions cited are perceived as having a high advocacy role, with the exception of the general media. This area has been cited as a significant weakness for most institutions, with the exception of MoC, the Ministry of Foreign Affairs, the Subcommittee for the Standardization of Rubber and Rubber-Based Products, MRPPA and UMFCCI. This dire situation indicates that significant efforts must still be made for TSIs related to the rubber 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 RUBBER PRODUCTS SECTOR – INFLUENCE VERSUS CAPACITY

The above analysis resulted in a multidimensional assessment of the capacities of TSIs to respond to the needs of rubber products sector planters and enterprises. This

analysis can be further developed by considering another dimension: the level of influence the TSI possesses over sector stakeholders. This classification represents sector stakeholders' perception of the level of influence and capacity to respond of each institution. Table 10 represents this classification for TSIs supporting the rubber products sector.

Table 10: Stakeholders' perception of rubber products sector TSIs' level of influence versus capacity

		Capacity of institution to respond to sector's needs	
		Low	Medium to high
Level of influence on the sector	Medium to high	MRPPA UMFCCI Ministry of Foreign Affairs MoC Subcommittee for the Standardization of Rubber and Rubber-Based Products	General media for information on rubber
	Low to medium	Mol MoAI Ministry of Science and Technology Ministry of Environmental Conservation and Forestry Ministry of Labour, Employment and Social Security Ministry of Transport MoFR Myanmar International Freight Forwarders Association	eTrade Myanmar

According to the perceived influence and capacity of TSIs, institutions at the policymaking level have generally a low degree of influence despite their mandate, even if the Ministry of Foreign Affairs and MoC are considered the most influential ministries. It also appears that all these institutions are limited in their capacity to support the sector because of their overall low levels of human and financial resources. This situation may explain why enterprises experience significant delays when applying for export permits, land-use permits, etc. MRPPA and UMFCCI are assessed to have a higher degree of influence in promoting the interests of the sector, despite their rather limited capacities.

Only the media entities have been assessed to have sufficient human and financial capacities, with general media for information on rubber being the only group assessed to have the desired high-high combination for rubber products sector enterprises. This implies that general media for information on rubber are currently in the best position to contribute to the sector's development through advocacy mechanisms, collaboration with other institutions and information sharing.

DEVELOPMENT INITIATIVES

Since late 1988, there has been no external assistance and financing for the development of the rubber products sector in Myanmar. Recently, with the reforms undertaken by the new democratic Government in line with new policies, some initiatives have been undertaken in the sector.

DICD, MOAI

Two State-owned rubber factories, the Fan Belt Factory at Yangon and the TSR Factory at Mudon, were leased out to two separate local companies in 2012. An instruction was given in November 2013 to state and regional DICD offices to register rubber nurseries and allow them to distribute only recommended rubber cultivars to planters. The aim is to remove the many nurseries which are distributing unproven and uncertain cultivars, which would have a negative impact on the future productivity of Myanmar's rubber in the long run.

NO. 2 HIE, MOI

- A Subcommittee for the Standardization of Rubber and Rubber-Based Products was formed in 2012 with the aim of standardizing Myanmar's natural rubber and rubber products in line with internationally accepted specifications and standards. The activities of the Subcommittee are under way and ongoing. This is the initiative which would contribute to the improvement of quality and marketability of the rubber products.

- The Stated-owned TSR factory at Thanbyuzayat was leased out to a local company in 2012.
- Twenty-seven State-owned rubber plantations with a total area of 15,000 acres were being privatized in September 2013 to improve the management efficiency and boost the production of these plantations.
- Two State-owned tyre factories (the Thaton Tyre Factory and the Belin Tyre Factory) were also announced in December 2013 and invited to become involved in joint operations with private sector companies. This is in process.

SWISS AGENCY FOR DEVELOPMENT AND COOPERATION/CARE MYANMAR

The international non-governmental organization CARE MYANMAR conducted, in August and September 2013, a Study for a Value Chain Strengthening Programme for Smallholders' Rubber Production in Mon State and northern Tanintharyi Division, funded by the Swiss Agency for Development and Cooperation (SDC). The study aimed at formulating a project to assist rubber smallholders to improve their rubber production with respect to productivity and quality, and to enhance their socioeconomic situation. Currently in its inception phase, the SDC-funded Strengthening Competiveness of Smallholder Rubber Farmers project is being implemented by CARE in Myanmar's southeast, with an initial focus on Mon State, and is intended to run until 2023.

MRPPA

With the aim of improving the quality of Myanmar's rubber, MRPPA signed a memorandum of understanding on 4 November 2013 with two Japanese counterpart associations, Japan Rubber Manufacturers Association and the Rubber Trade Association of Japan, to develop a quality certification system by a third party.

MRPPA officials met with the Deputy Minister of MoFR and on 16 November 2013 and discussed the revision of the 5% commercial tax levied on raw rubber to 0%, to be in line with all other agricultural and industrial crops. The Deputy Minister agreed to revise the tax as requested and put it to Parliament in January 2014 for approval.

In view of the lack of human resource capacities and finance in Government departments and the similar situation in MRPPA, external donors are necessary to support their efforts and initiatives. Donors should support projects aiming to improve the main issues and constraints currently identified in the supply-side, business environment and market entry gears.

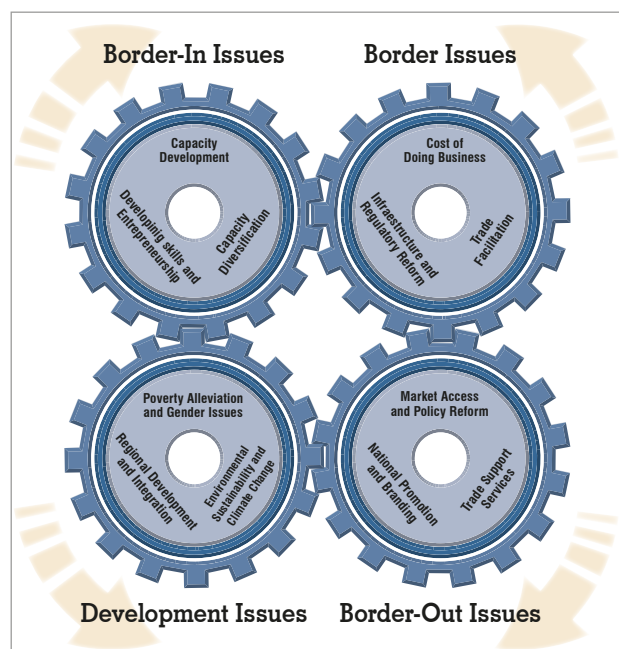
The key areas to be focused on are productivity and quality improvements in the upstream supply side and the

development of a value added rubber products industry for product diversification in the downstream supply side. In this regard, the establishment of a specialized rubber research institute, together with human resource development, is most vital for the sustainability and competitiveness of the rubber products sector in Myanmar.

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 major constraints that are currently main export competitiveness bottlenecks for the rubber products sector in Myanmar. 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 4: Overview of supply-side issues related to the Myanmar rubber products sector

- Low productivity
- Inferior quality of planting materials and inputs
- Planting of low yield cultivars
- Low adoption of improved harvesting technology
- Existence of unproductive trees
- Low quality
- Lack of quality control systems and third-party certifications
- Limited investment in training and technology
- Low value addition
- Low volume of production
- Low capacities and skills set

LOW PRODUCTIVITY

While yields have gradually increased in recent years to reach 687 lb/acre (or 770 kg/ha) in 2012-2013, owing to the increased planting of high-yielding cultivars in the past two decades, the productivity of the sector remains very low compared with other producing countries in the region (1,500 – 1,700 kg/ha). A number of factors, detailed below, have contributed to this situation.

INFERIOR QUALITY OF PLANTING MATERIALS AND INPUTS

The vast majority of rubber producers in Myanmar are using inferior quality planting materials and inputs as well as outdated plantation management and harvesting techniques, leading to high production costs for rubber. The Myanmar rubber products sector depends heavily on imports for agricultural inputs, including fertilizers, herbicides, fungicides, etc. Inadequate enforcement of policies and verification of quality of inputs by the concerned institutions (MoAI, MoC, and the Myanmar Fertilizer, Seed and Pesticide Entrepreneurs Association) have resulted in the uncertain quality of imports. This has significantly affected the yield and the total production in the sector. The quantity of inputs also appears to be insufficient, mainly because of the limited financial capacity of planters due to difficulties in accessing finance.

Part of the solution lies in increasing the supply of locally produced inputs and developing advocacy campaigns aimed at informing farmers about alternatives, but equally important is the need for better market regulation and surveillance in terms of technical requirements and standards.

PLANTING OF LOW YIELD CULTIVARS

Planting of uncertain or unproved rubber cultivars is common, fuelled by uncontrolled nursery operation and distribution of those cultivars. This situation highlights the lack of regulation and control related to nursery operations to distribute recommended or proven cultivars, and also the import of planting materials for commercial distribution without prior sufficient local testing. The sector also suffers from an apparent lack of technical support and education to planters regarding cultivars. Raising awareness of the importance of cultivars is needed in this regard.

LOW ADOPTION OF IMPROVED HARVESTING TECHNOLOGY

The low productivity of the domestic natural rubber products sector can also be partly explained by the low adoption of improved tapping techniques and use of stimulants. Two reasons can be given to explain this situation: the limited training of the majority of smallholders and the low level of R&D in the country. ARCPC should play a key role in this regard but is constrained by a limited budget and lacks adequate facilities and competent researchers and scientists. The sector would also benefit from better technological transfer. The low level of R&D and, above all, the limited access to finance do not currently allow for adequate technological transfer.

EXISTENCE OF OLD UNPRODUCTIVE TREES

The productivity of the sector is also negatively affected by the existence of overage rubber plantations as well as outdated unselected seedlings, which need to be replanted with new high-yielding cultivars. Funding for replanting overage trees is, however, lacking – once again constrained by the limited access to finance in the country.

LOW QUALITY

Both types of rubber produced in Myanmar – RSS 3 & 5 and TSR 20 & 50 – are of low quality. Myanmar's rubber production is generally considered to be of low quality due to impurities (rocks, sand, dust, etc.) contaminating production processes, reducing value and affecting the ability to diversify into new export markets. Several factors explain the situation, detailed below.

LACK OF QUALITY CONTROL SYSTEMS AND THIRD-PARTY CERTIFICATIONS

There is a severe lack of control and related regulations for the production, processing, trading and export of rubber in accordance to type specification along the whole supply chain. Unskilled workers not following standard operating procedures for RSS, coupled with the general inadequacy of the technology used to process the rubber, partly explains the overall poor quality of domestic production. In addition, buyers/traders do not differentiate grades; as a consequence, even if suppliers provide good quality products, buyers lump all grades together and generally do not reward for better quality. Looking more specifically at TSR, it appears that there is no standard operating procedure to control the quality of processed rubber as most TSR factories lack quality control laboratories to specify their produced rubber accordingly.

Mol issues licences to operate TSR factories, but there is no control and regulation regarding the process and quality of the produced TSR rubber. In this regard, lack of coordination between Mol and MoAI is evident.

The rubber products sector also suffers from the lack of a certification system for the quality of export rubber, for which foreign buyers tend to pay less than the prevailing international market price. There is no third-party certification in Myanmar, and no organization in existence in Myanmar would currently be capable of undertaking this activity. The Government, through RTTCRP, is currently in charge of evaluating the quality of processed rubber. However, tests are conducted on an irregular basis and the RTTCRP laboratory is not accredited. This certification must be delivered by an independent third party according to international standards (International Organization for Standardization (ISO) standards).

LIMITED INVESTMENTS IN TRAINING AND TECHNOLOGY

There is a clear lack of education of planters and processors to produce high quality rubber in Myanmar, illustrating a crucial and urgent need for training and awareness-raising campaigns. A new mindset is needed in the sector that should aim at attaching greater importance to the quality of the rubber products exported rather than the quantity.

LOW VALUE ADDITION

Value addition in domestic rubber products exports is hampered by several factors, including the unstable and insufficient electricity supply from the national grid for TSR factories, which consume substantial electricity, as well as

the low levels of domestic investment and FDI that would allow the development of higher added value activities.

The low adoption of technology also prevents the domestic rubber products sector from producing value added products. Among other things, the sector lacks factory laboratories, testing equipment and modern production equipment. The unqualified human capital also hinders the development of added value production, as skilled workers and technicians are needed to improve the quality of domestic production sustainably. As previously mentioned, the education system needs to be upgraded and the workforce properly trained.

Value addition in manufactured products will contribute to an increase in revenue, reduce vulnerability to external shocks, improve export penetration into new markets and help develop product diversification. Improvements in value added and quality are also expected to lead to improved sustainability of export markets, which has been identified as being extremely low.

LOW VOLUME OF PRODUCTION

Although Myanmar benefits from the existence of abundant land resources, including vast areas of vacant lands that could potentially be suitable for rubber, the country's potential remains largely underexploited despite the gradual expansion of cultivated areas. MRPPA forecasts production of 300,000 tons by 2020-2021, compared with the 165,000 tons in 2012-2013, though this remains relatively low-scale.

Prohibitive regulations regarding land use seriously hinder the development of the sector as they are a major obstacle to the establishment of new producers and create unnecessary delays in obtaining a land-use permit. It is also to be noted that, with regard to land rights, a producer has four years to plant crops, a period after which the Government has the right to expropriate the land. In reality, however, the system is not implemented and the concerned land is not used, and instead kept for speculative purposes.

LOW CAPACITY AND SKILLS SET

The capacity of the institutions responsible for the rubber products sector in Myanmar is relatively low compared with regional competitors. Although the recent changes in policy and the resulting need for adaptation can partly explain the low institutional capacity, it should not divert attention from the overall weaknesses in the institutions' organization. Coordination and cooperation among Government organizations and private sector stakeholders is also lacking. This low capacity arises from the lack of institutional capacity-building as well as the limited

number of professionals in the sector. From a private sector point of view, and as previously mentioned, the limited skills set is mainly due to the lack of technological transfer to smallholders and the lack of skilled labour.

THE BORDER GEAR (QUALITY OF THE BUSINESS ENVIRONMENT)

Box 5: Overview of Myanmar rubber products sector business environment issues

- Weak rules and regulations
- Prohibitive taxation system
- Energy supply and reliability
- Limited access to finance
- There is a need for a specialized rubber research institute
- Weaknesses of TSIs
- Limited transport infrastructure

WEAK RULES AND REGULATIONS

There are almost no regulations and laws related to planting and production of rubber, processing and local trading or marketing. Although there is a recommendation of planting materials (cultivars or clones) to be planted according to the agro-climatic conditions of the planting areas, there is no control or regulation of nurseries regarding distribution of the recommended cultivars to planters. A notification requiring the registration of all rubber nurseries was issued by MoAI in 1992, but it was ignored and has never been implemented.

Traders and buyers are not being registered and therefore there is no control of the types and grades of rubber purchased and the grading system being practised. In addition, TSR rubber processing factories are required to be registered at the Directorate of Industrial Supervision and Inspection under MoI; however, there is a lack of regulation regarding the process, type and quality of the processed TSR rubber.

Regarding the export of rubber, exporters or companies are required to have an exporters/importers permit from the Department of Commerce and Consumer Affairs under MoC. However, there is no regulation regarding the types and grades to be exported. There is a complete lack of a certification system for the quality of exported rubber.

PROHIBITIVE TAXATION SYSTEM

In addition to structural and institutional weaknesses, the sector suffers from a prohibitive taxation system, since rubber is the only agricultural commodity subjected to a 5% commercial tax, compared with all other agricultural products, which are free from commercial tax. All the individual players along the whole supply chain (producers, processors, traders and exporters) have to pay the commercial tax repeatedly for the same commodity, leading to a high cost at export point. The reason behind this exception is that rubber planters and producers are seen as industrial producers and not as cultivators. Cumulation of the commercial tax through every link of the supply chain (planters pay 5%, traders pay an additional 5% and exporters an additional 5% for every transaction) makes production costs high. A direct consequence of this taxation system is the existence of illegal exporters who try to evade taxes, hence putting legal traders at a disadvantage. Incentives should be created in the taxation system for rubber to support the development of the sector. The sector as a whole should not be double or triple taxed.

ENERGY SUPPLY AND RELIABILITY

The electricity supply in Myanmar is still largely insufficient and unstable, considerably affecting the business. There is indeed no power supply from the national grid for TSR factories, which consume high levels of power. This in turn leads to a situation where factories use their own generators to produce electricity, which pushes the cost of production up considerably. There are currently no viable alternatives as fuel prices are not competitive thanks to the import of diesel, and natural gas being exported rather than distributed for domestic use.

LIMITED ACCESS TO FINANCE

The financial sector remains largely underdeveloped in Myanmar, hampering effective mobilization of domestic savings for investment. Access to banking in Myanmar is limited, with an insufficient number of commercial bank branches. Myanmar has only 1.69 branches per 100,000 adults, compared with 3.63 in Viet Nam and 11.29 in Thailand.¹⁶ Rural areas are particularly isolated in this regard. International banking divisions are also scarce in the country. The banking system also remains inadequate with regard to cross-border payments.

Producers and exporters 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. Myanmar's banking system currently provides mainly limited amounts of short-term credit for trade – usually one year – making it very difficult for all industry stakeholders (rubber planters, processors, traders and exporters) to invest and develop their activities. Even when granted, for secured lending only, high interest rates charged by banks (around 13%) limit opportunities for small and medium-sized producers and processors to upgrade capital equipment and make other investments. It is also to be noted that there is no cash flow lending system in place in Myanmar.

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. 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 to become competitive. Inventories are needed to be able to ensure delivery, and access to trade finance is a vital part of increasing exports.

THERE IS A NEED FOR A SPECIALIZED RUBBER RESEARCH INSTITUTE

To best answer the needs for technologies, local capacity-building, professional development and infrastructure development in the sector, a rubber institute dedicated to the industry is recommended. ARCP is partly playing this role but it does not respond to the specific needs of the rubber products industry. RTTCRP should also play a key role to support the value added industry subsector and to raise awareness. However, both research institutes are constrained by limited budgets and are currently lacking adequate facilities and competent researchers and scientists.

WEAKNESSES OF TSIS

Another issue linked to the business environment relates to weaknesses of TSIs that should play a key role in obtaining real-time market information and prices, and information on standards, rules and regulations. TSIs should be developed to improve the organization of the sector, modernize the communications system and strengthen the linkages between stakeholders.

LIMITED TRANSPORT INFRASTRUCTURE

The transport infrastructure (road, air and water) is largely inadequate and considerably underdeveloped, hampering the movement of goods and people and constraining economic activity. The lack of transport infrastructure in some rubber-producing areas leads to high transportation

16. International Monetary Fund (2013). Myanmar: staff-monitored programme. Country Report No.13/13. Washington, D.C.: IMF.

costs. In addition, the absence of infrastructure in some areas suitable for rubber planting makes them inaccessible for harvesting and transport to market.

THE BORDER OUT GEAR (MARKET ENTRY)

Box 6: Overview of Myanmar rubber products sector market entry issues

- Limited access to trade information
- Absence of export promotion and branding efforts
- Limited investment promotion

LIMITED ACCESS TO TRADE INFORMATION

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 requirements. This need plays an even more prominent role considering that local enterprises in the rubber products sector, due to their structure, are inexperienced in market penetration and development. It is important to centralize the collection and dissemination of trade information, as well as making it easier to access. The lack of participation by the Government in international or regional rubber organizations means that the concerned Government agencies are not kept abreast of real-time information regarding policies, strategies, trends, technologies, markets, etc. TSIs should play an important role in this regard. Information on buyers' requirements is not readily available. The absence of this information prevents exporters from adopting the market requirements critical to succeeding in a specific target market.

ABSENCE OF EXPORT PROMOTION AND BRANDING EFFORTS

Domestically produced natural rubber currently suffers from the perception of its image in international markets. To illustrate this, it is common that Malaysia imports rubber from Myanmar, repackages it and, benefiting from a better image, exports it as Malaysian rubber.

To build export competitiveness, the rubber products sector must have an established brand outside the country. Ensuring that the sector's products are of minimum quality and supplied with consistency is a given prerequisite in this regard, and the lack of suitable products for export is a major obstacle. Another important dimension is developing an effective brand promotion campaign. The small

per capita size of landholdings and the low level of organization among producers in the sector have partly contributed to slow or non-existent branding and promotion efforts. Cooperatives or associations of producers could indeed leverage collective strengths towards greater supply, quality, branding and promotion, but these entities yet have to be established.

LIMITED INVESTMENT PROMOTION

Investment promotion activities such as a sector-specific development fund or guarantees for land ownership are required to better promote the potential of the rubber products sector in the country. Procedures for land use and rights should also be eased to attract local and foreign investors. Finally, the current instability of the market should be tackled by subsidies to incentivize the sector's stakeholders.

DEVELOPMENT GEAR

Box 7: Overview of Myanmar rubber products sector development issues

- Employment
- Rural development
- Environmental issues

EMPLOYMENT

As previously mentioned, the development of the sector could have a high socioeconomic impact since the sector can be a driver of job creation. The development of the rubber products industry could significantly boost job creation and generate indirect employment.

Despite the lack of statistics on workers, it seems that women play a significant role in Myanmar's rubber products sector as most tappers and graders are known to be women. However, inadequate gender statistics provide an incomplete overview of the gender situation and quality gender disaggregated data would be needed to benchmark the country in regards to gender and women's empowerment.

Looking at the labour laws, it appears that regulations only apply to industries in Myanmar. As rubber planters are classified as farmers, they thus avoid all kind of regulations and are solely responsible for workers' welfare. Unions are also absent to protect workers in the rubber products sector.



(cc) Sean Beesley. Rubber sheets smoking in the Smoke House.

RURAL DEVELOPMENT

The development of the rubber products sector could have a positive impact on rural areas in the country, as it would foster rural development in a sustainable manner. A large concentration of poverty, 85%, being located in rural areas,¹⁷ the development of the sector could hence contribute to reducing the gap between urban and rural zones.

ENVIRONMENTAL ISSUES

The degree of air and water pollution caused by industry or agriculture is currently minimal due to low levels of industrialization and relatively little use of chemicals in

agriculture. This risk will have to be monitored as the sector continues to thrive, paying particular attention to waste management, smells, and effluent caused by water management and treatment in rubber processing factories having negative impacts on the environment. These environmental issues are currently largely ignored in most TSR factories and inspections are limited, if not non-existent.

The social and environmental conditions surrounding rubber production (including labour rights, workers' use of protective gear, implementation of effective waste disposal methods, use of chemicals, etc.) must be managed in order to strengthen the sector's development potential. This may also include raising awareness of corporate social responsibility, including employee welfare, and of ways to transform undeclared work into regular employment.

17. 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.



WHERE WE WANT TO GO

VISION

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

“ To foster innovation and sustainable growth in national and global rubber value chains. ”

The scope for improvements in the sector is immense and extends along the value chain. In some cases it involves strengthening existing linkages, while in other cases 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). This envisaged future state of the rubber products sector is discussed in greater detail below.

MARKET AND STRATEGIC OPTIONS

As indicated in the introduction, the envisioned future state of the rubber 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 rubber products sector. Both existing and new products – to old and new markets – 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.

MARKET IDENTIFICATION

The following section provides insights into market development opportunities¹⁸ 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.

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

As indicated earlier, Myanmar's existing exports are highly concentrated within a handful of markets. For instance, in 2013 roughly 61% of natural rubber exports were shipped to China and 35% to Malaysia. This reflects geographic proximity and overall import trends, but also highlights opportunities for diversification. Myanmar's currently low level of diversification and limited capacity for value added activity means that the country is a price taker on world markets.

CHINA

Product: natural rubber (HS 4001)

China is world's second largest importer of rubber behind the United States, and is Myanmar's most important trading partner for rubber products, representing 60.7% of Myanmar exports for rubber and articles thereof (HS 40) in 2013¹⁹. With an exported growth in value of 47% between 2009 and 2013 (% p.a.), Chinese demand is the main driver of development of the rubber products sector in Myanmar. However, the US\$123.3 million worth of rubber products imported by China that year were almost exclusively composed of natural rubber (TSR and RSS), used primarily for the transformation industry. We

18. Appendix 4 provides a summary snapshot of the opportunity for market expansion by product and market for the principal markets surveyed.

19. International Trade Centre (n.d.). Trade Map (mirror data). Available from www.trademap.org/. Accessed 27 June 2014.

can also note that Myanmar rubber products currently represent only 1.1% of Chinese imports. As a comparison, Chinese imports from Thailand reached US\$6.3 billion, or a 31.5% market share. The natural rubber imported by China is primarily used in tyre manufacture, the country being the world's largest exporter of this product.

In the short term, a market development option would consist in increasing export revenues by controlling and enhancing the quality of RSS exports to China (RSS 3 to RSS 1 as opposed to currently RSS 5 to RSS 3). The reliability of the supply also has to be improved to build longer-term trading relationships with these key markets. Similarly, from TSR 50, the country should aim at producing and exporting higher-value TSR 20 to China.

MALAYSIA

Product: natural rubber (HS 4001)

Currently the second trading partner of Myanmar for rubber products with a 34.7% market share, Malaysia is a key market for the sector. Looking at the trade relationship between the two countries, natural rubber appears to be the most imported product, representing 35.5% of Malaysia's total imports from Myanmar in 2013. As with China, Malaysia's imports are almost exclusively concentrated on two natural rubber products, TSR and RSS. It is to be noted that more than 70% of the natural rubber imported by Malaysia consists of RSS. Natural rubber exported to Malaysia is primarily used in the clothing industry, after transformation. A large share of the natural rubber imported from Myanmar is also processed and re-exported.

As above, it is crucial that the sector increases the price of its production by controlling the quality of its natural rubber exports. The recent exported growth rate of 13% in value reported from the period 2012-2013 is a promising sign for future development.

REPUBLIC OF KOREA

Products: natural rubber (HS 4001) and outer soles of rubber (HS 6043)

Currently the third partner for Myanmar rubber products exports, the Republic of Korea offers opportunities for Myanmar's products. After several years of growth, the Korean market is now declining as the demand for rubber products reported a negative growth of -7% in value between 2012 and 2013 (% p.a.). With a negative growth rate of 19% over the same period, the situation is even more critical for natural rubber imports. With Myanmar's exports to Korea consisting almost exclusively of TSR for the manufacturing of tyres, the sector should be looking

at developing the production of higher added value products for which a demand exists in Korea, such as articles of apparel and clothing accessories of vulcanized rubber (+19% annual growth in value between 2009 and 2013 (% , p.a.)) or synthetic rubber.

Most important when targeting the Korean market is the development of the production of outer soles of rubber. Myanmar exported US\$6.4 million worth of outer soles to the Republic of Korea in 2013, only accounting for 0.9% of the country's total imports of this product. A bigger market share could be obtained by focusing on the quality of the products exported to this demanding and developed market.

JAPAN

Products: outer soles of rubber (HS 6403) and natural rubber (HS 4001)

Japan is Myanmar's most important trading partner for outer soles of rubber, representing 91.9% of Myanmar exports for footwear, uppers of leather in particular in 2013,²⁰ or US\$107.6 million worth. With a 7.2% market share in 2013, Myanmar appears to be an important provider for the Japanese market and could benefit from a steady growth in demand of 11% in value between 2009 and 2013 (% , p.a.) for this product. Similarly to the Korean market, the high quality of the products exported will be a key factor to increase Myanmar's penetration in one of the most demanding markets in the world. Myanmar's soles of rubber are used in footwear factories for assembling.

Japan is the world's leading importer with more than US\$6.8 billion worth of natural rubber imported in 2012, followed by the United States (US\$3.5 billion) and Japan (US\$2.5 billion). India's demand is also booming with an annual growth in value of 47% between 2008 and 2012.

EU

Products: natural rubber (HS 4001) and articles of footwear (HS 6406)

It appears that Myanmar is not yet tapping into the European market for its natural rubber exports. Having overcome EU sanctions, Myanmar can expand its trade from Asia to the whole globe and take advantage of the EU Generalized System of Preferences—Everything but Arms agreements. The natural rubber imported is used in the manufacturing industry for transformation (tyres and other articles of vulcanized rubber).

Improvement of the quality of the RSS is, however, a prerequisite to accessing these developed markets. Only then can the country promote trade in the rubber products sector, targeting end users (manufacturers associations). Skilled labour and adapted technology are needed to achieve this objective.

Germany, France and Italy, mainly, should be seen as priority markets for TSR exports. Similarly to the RSS situation, the quality level of Myanmar's production has to be considerably improved in order to penetrate these highly demanding markets, and prior to undertaking trade promotion activities to end users. Skilled labour, technology and FDI are needed to improve the competitiveness of Myanmar TSR. The reliability of the supply also has to be improved to build longer-term trading relationships with these markets and to penetrate the leading European markets (Italy and Germany being the main importers).

UNITED STATES

Product: natural rubber (HS 4001)

The United States is the second largest importer of TSR after China, importing more than US\$2.3 billion worth of this product in 2013 – primarily for transformation in tyre factories – and mainly relying on Malaysia for its supply. However, due to past sanctions and the low quality of its products, Myanmar is not yet tapping into the vast American market. Having overcome American sanctions, Myanmar can start developing its trading relationship with the United States for natural rubber. As indicated above, improvement of the quality of the TSR is a prerequisite to accessing this demanding market.

INDIA

Product: natural rubber (HS 4001)

India's demand is also booming with an annual growth in value of 33% between 2009 and 2013. This demand for both RSS and TSR, fuelled by the emergence of Indian tyre manufacturers, represents an interesting opportunity even if the tariffs applied by the country are still prohibitive.

²⁰ International Trade Centre (n.d.). Trade Map (mirror data). Available from www.trademap.org/. Accessed 27 June 2014.

MEDIUM-TO-LONG TERM (3+ YEARS)

The main prospects for diversification into new products relate to producing compound rubber products.

CHINA

Products: concentrated latex (HS 400110), compounded rubber (HS 4005), conveyor belts (HS 4010) and sawn rubber timber

With the appropriate level of investment, coupled with the emergence of a skilled workforce and the sourcing of new technologies, Myanmar could develop the production of high quality natural rubber latex. Historical regional trading partner China is one of the main importers of rubber latex – accounting for 21.6% of world imports – but is almost exclusively supplied by Thailand, making it difficult to penetrate its markets. Concentrated latex is primarily used in manufacturing activities, mainly in the tyre industry.

Myanmar could develop the production of compounded rubber that fetches higher prices on international markets compared with RSS and TSR. For this step, it is a prerequisite that the appropriate technology is acquired. Myanmar should aim at developing sustainable longer-term trade relations with China, the country being by far the main importer of compounded rubber (42% of world imports) with an imported growth in value between 2008 and 2012 of 33%.

Exports of conveyor belts to China, the world's number four importer, also represent a great opportunity, despite an average tariff of 11% applied on this product.

Exports of sawn rubber timber could be developed, targeting the demanding and booming Chinese market. China accounts for 42% of world imports of sawn rubber timber, with an annual growth in imports of 27% between 2008 and 2012.

MALAYSIA

Products: concentrated latex (HS 400110), compounded rubber (HS 4005), tyres (HS 4011) and inner tubes (HS 4013)

With more than US\$1 billion worth of products imported in 2013, Malaysia was the world's major importer of concentrated latex (HS 400110) in 2013 with a 35.5% market share. As indicated above, Myanmar could develop the production of high quality natural rubber latex to penetrate the Malaysian market, which is currently monopolized by Thai suppliers.

Market development options for compounded rubber include the development of trade relations with dynamic markets in the region, starting with Malaysia (the country reported an annual growth of 124% in value between 2008 and 2012).

The production of tyres is slowly emerging in Myanmar as encouraging initiatives have recently been observed. The country should consequently be looking at increasing the quantity produced and build strong and sustainable trade relations with key importers such as Malaysia. A skilled workforce, technology and significant investments are needed to develop this emerging and promising source of growth.

The production of inner tubes of rubber also represents an option for the sector's development. Malaysia seems to be presenting promising market conditions with higher growth rates and no tariff barriers. The appropriate level of investment, a skilled workforce and adoption of new technologies are prerequisites for the development of this activity.

INDONESIA

Products: concentrated latex (HS 400110), inner tubes (HS 4013) and conveyor belts (HS 4010)

At the regional level, Indonesia seems to provide enabling conditions for Myanmar' products to enter its market, with a low level of concentration of supplying countries of 0.39 and a sustained growth of its imports of 21% on average per year over the last five years.

The production of conveyor or transmission belts or belting of vulcanized rubber can also be envisaged in Myanmar with the appropriate level of investment, technology and skills. Looking at traditional markets, and despite its limited 1.9% share in world imports, Indonesia's 20% annual growth for conveyor belt imports over the last five years, coupled with a low concentration level of supplying countries, makes the country very attractive for this particular product.

OTHER ASEAN COUNTRIES

Product: tyres (HS 4011)

The emerging tyre industry should be looking at increasing production and targeting dynamic regional markets such as Cambodia, Thailand, the Philippines and Viet Nam (whose imported growth in value between 2008 and 2012 ranged between 24% and 27% despite a limited share in world imports – the four countries together accounting for 1.3% of world imports). The European and American markets also represent major development

options as they remain the main importers of tyres worldwide, and include many countries as sources for their imports (i.e. these markets have very low levels of concentration of supplying countries). A skilled workforce, technology and significant investments are needed to develop this emerging and promising source of growth.

JAPAN

Products: mattresses of rubber materials (HS 940421) and concentrated latex (HS 400110)

Market development options to Japan and the Republic of Korea have been identified by the sector's stakeholders for these products. The Korean market is particularly dynamic with 42% growth over the past five years and a world market share of 2.2%. As mentioned above, the appropriate level of investment, a skilled workforce and adoption of new technologies are prerequisites for this production to emerge. The Japanese market, despite its high degree of concentration of supplying countries (75%), constitutes a viable option for concentrated latex.

UNITED STATES

Products: mattresses of rubber materials (HS 940421) and conveyor belts (HS 4010)

The United States market is the world's largest for this product and could also offer opportunities for Myanmar. The appropriate level of investment, a skilled workforce and adoption of new technologies are prerequisites for this production to emerge. The United States, the world's largest importer of conveyor belts, is to be considered for future developments.

EU

Products: concentrated latex (HS 400110) and rubberwood furniture

New market development options for concentrated latex include the penetration of several European markets, and more particularly the Belgian and the British ones, these countries being the main importers of latex after Malaysia and China, moreover reporting sustainable growth and a relatively low level of concentration of suppliers. Myanmar could develop higher value added products from rubber timber – such as wood furniture – to export to European markets.

INDIA

Product: compounded rubber (HS 4005)

Despite the application of a 10% tariff rate, the Indian market also represents an interesting option for Myanmar products, as pointed out by several rubber stakeholders during consultations.

RUSSIAN FEDERATION

Product: conveyor belts (HS 4010)

Conveyor or transmission belts or belting of vulcanized rubber are highly demanded in the Russian Federation, the country accounting for 3.3% of world imports with an annual growth in value between 2008 and 2012 of 17%, making the country attractive for potential exports. The United States, the world's largest importer of conveyor belts, is also to be considered.

BRAZIL

Products: inner tubes (HS 4013) and concentrated latex (HS 400110)

Looking at new markets for inner tubes of rubber, Brazil presents the best guarantees of success for Myanmar products since import growth for inner tubes in Brazil was 45% per year on average between 2008 and 2012. This could be done through a joint strategy with other rubber products like TSR. The rapid emergence of the Brazilian market for inner tubes should also be considered.

OTHER PRODUCTS AND MARKETS

Another market development option that could be developed by Myanmar is the exploitation of rubberwood. Exports of rubberwood represent unexploited export potential for Myanmar with China, Malaysia, Singapore, the United Arab Emirates and the Republic of Korea representing key target markets. Rubberwood log exports for the semi-finished furniture industry could also be increased to Thailand, but the Myanmar Government will no longer allow exports of timber logs, with effect from FY 2014-2015, and the production of higher added value rubberwood furniture could be increased.

Rice mill polishing blades and rubber rice rollers also represent growth potential for Myanmar's exports, and trade relations could be established with emerging markets such as Viet Nam, Bangladesh and Saudi Arabia, as well as with the leading and constantly growing Indian market. The production and export of rubber bands to India and Bangladesh could also be further developed.

ROLE OF INVESTMENT TO MOVE INTO NEW VALUE CHAINS

Myanmar has 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%).²¹

Net FDI outside of the sector of gas has, however, remained very low, with a small exception for the garment and textile sector. FDI has indeed remained very low in the agriculture sector in Myanmar. There is some foreign investment in distribution services for rubber tyres (and automobile concessionaires) but there are presently no joint venture operations for manufacturing and no investment in plantations. Yet FDI and domestic investment are seen as essential to achieve the ambitions of the rubber products sector in Myanmar, a sector that lacks adequate investment in capital and knowledge.

Geographic clusters exist in the country, namely in Taunggyi, Mandalay and Yangon, and manufacturing operations can best take place in industrial zones. With an increasing level of demand for vehicles as Myanmar opens up, interest in investing in domestic production facilities to transform rubber will also increase.

Significant opportunities for investment – domestic or foreign – exist, including:

- Smokehouses for smallholders. Currently there is little access to finance for smallholders to invest in them. Only large plantations currently manage this;
- Tyre factories;
- Rubberwood furniture factories;
- Higher value added grades of TSR and RSS rubbers;
- Nurseries of higher-yielding perennial crops;
- Investing in latex concentrate production.

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

- Strengthening supplies by improving the quality, reliability and pricing of upstream operations;
- Setting up downstream industries aimed at end consumer markets;
- Developing new value added product production;
- Improving the environmental concerns of the industry;
- Building the capacity of local staff and implementing integrated quality control systems;

- Improving access to markets, since 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.

STRUCTURAL IMPROVEMENTS TO THE VALUE CHAIN

Box 8: Overview of structural changes to the Myanmar rubber products sector

- Upgrade planting materials, production inputs and cultivars
- Develop technical competencies of the rubber products sector towards improved quality rubber products and the value added rubber market segment
- Improve the capacity of the rubber products sector to comply with international standards
- Improve the skills of the workforce throughout the sector's value chain through a variety of training programmes
- Link with other sectors through the development of rubberwood products

UPGRADE PLANTING MATERIALS, PRODUCTION INPUTS AND CULTIVARS

Intervention is required to modernize the inferior and outdated plantation management and harvesting techniques currently used in the sector, which result in high production costs. Upgrading the technologies used would also allow the sector to improve the quality of its production and to increase its productivity significantly, thereby reducing production costs and increasing export potential.

Interventions at the policy level would include adequate enforcement of policies and verification of quality of inputs by the concerned institutions (MoAI, MoC and the Myanmar Fertilizer, Seed and Pesticide Entrepreneurs Association) to ensure the quality of production inputs (fertilizers, herbicides, fungicides, machinery, etc.).

Efforts to regulate and control nursery operations should also be implemented in order to distribute recommended and proven cultivars and to tackle illegal imports and widespread planting of those imported cultivars without sufficient prior local testing. Investment should also aim at increasing the supply of locally produced inputs and developing advocacy campaigns aimed at informing farmers about alternatives.

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

DEVELOP TECHNICAL COMPETENCIES OF THE RUBBER PRODUCTS SECTOR TOWARDS IMPROVED QUALITY RUBBER PRODUCTS AND THE VALUE ADDED RUBBER MARKET SEGMENT

The development of higher added value rubber products would significantly contribute to better positioning of Myanmar products in global markets, especially within the EU, the United States and Japan. As indicated in the market development options section, there is potential to develop various rubber-based products, with promising prospects for local consumption as well as for exports. Moreover, these products will constitute a high revenue base for Myanmar exporters.

Interventions at the policy level would include development of a standard that incentivizes new producers. A steering committee comprising governmental actors (ministries and technical agencies), the civil society network, development actors (including international donor agencies), and the private sector as the ultimate beneficiaries, will need to be set up to launch a nationwide drive to develop added value activities.

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

A key prerequisite for building export competitiveness in the rubber products sector lies in the ability of enterprises to meet international standards. Global standards range from moderate (China, ASEAN member states) to high (EU member states, United States), and it will be important for Myanmar producers and exporters to be able to meet the most demanding requirements to ensure market diversification.

Natural rubber consumers are conscious of the high quality, consistency and cleanliness of raw materials that they buy. Industrial standard series ISO 9000 emphasizes quality control, which is required in the rubber manufacturing industry. The ISO 9000 certification would be the first step for quality control management of raw natural rubber production in Myanmar to improve the competitiveness of domestic rubber products in the world market. This would assist Myanmar in the promotion of its rubber products exports, as more and more buyers require the ISO 9000 standard to be implemented for their rubber imports.

Broad-ranging initiatives should be launched in order to develop and improve capacities of companies and co-operatives to commit to international voluntary standards. Initiatives could include, but not be restricted to:

- Assessments to identify the current level of compliance and key barriers that are preventing producers from committing;
- Pilot projects to support upgrading of facilities;
- Improving quality management infrastructure within enterprises;
- Developing a strong traceability infrastructure across the value chain;
- Ensuring laboratories are accredited in Myanmar;
- Technical field trainings related to best practices involved in cultivation and pre- and post-harvest processes.

IMPROVE THE SKILLS OF THE WORKFORCE THROUGHOUT THE SECTOR'S VALUE CHAIN THROUGH A VARIETY OF TRAINING PROGRAMMES

The development of the workforce capacity in Myanmar's rubber products sector was an important consideration throughout the strategy development process. Private companies can collaborate with universities and training institutions to provide trainings on appropriate technologies and the latest techniques, as well as providing on-the-job training for individuals already working in the sector. Specific areas to focus on within the value chain include correct choice of cultivar and planting, upkeep and maintenance, tapping, processing, manufacturing, etc. The involvement of universities, agronomists and other experts, and local companies, would be essential.

The operational aspects of this proposal would involve agreements signed between selected companies and major universities in Myanmar that have agronomy majors and end product manufacturing technology as part of the curriculum. Specialized programmes would be developed with additional specialties including business administration, marketing, quality assurance, and so on. The programme would involve practical training sessions as well as assessment through practical and theoretical exams. Unless already employed, graduates would be provided with placement guidance, as well as direct placement opportunities through participating companies.

The proposed future state is presented in Figures 16 and 17 through a future value chain, which captures both the selected key markets and strategic options.

LINK WITH OTHER SECTORS THROUGH THE DEVELOPMENT OF RUBBERWOOD PRODUCTS

A market development option that could be developed by Myanmar is the exploitation of rubberwood. This sector has been largely ignored, the Government favouring the development of higher added value teak wood exports.



Exports of rubberwood, however, represent unexploited export potential for Myanmar. The production of higher added value rubberwood furniture could be increased, targeting the Singaporean and Korean markets. This sub-sector is currently at an embryonic stage and significant investments, as well as a skilled workforce and adequate production technology, would be required to develop this promising and unexploited market.

FUTURE VALUE CHAIN

The future value chain is presented in Figures 16 and 17.

Figure 16: Future value chain

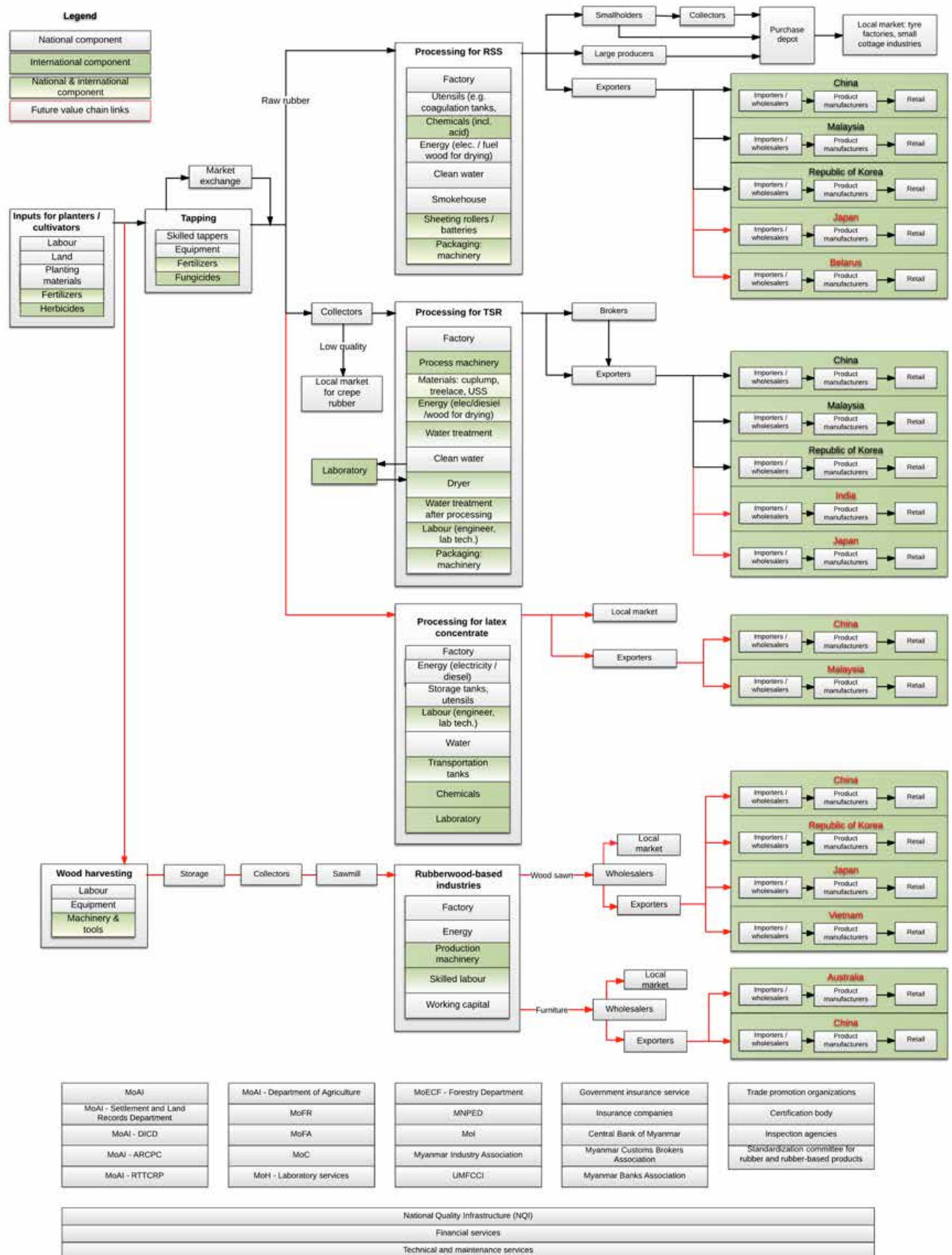
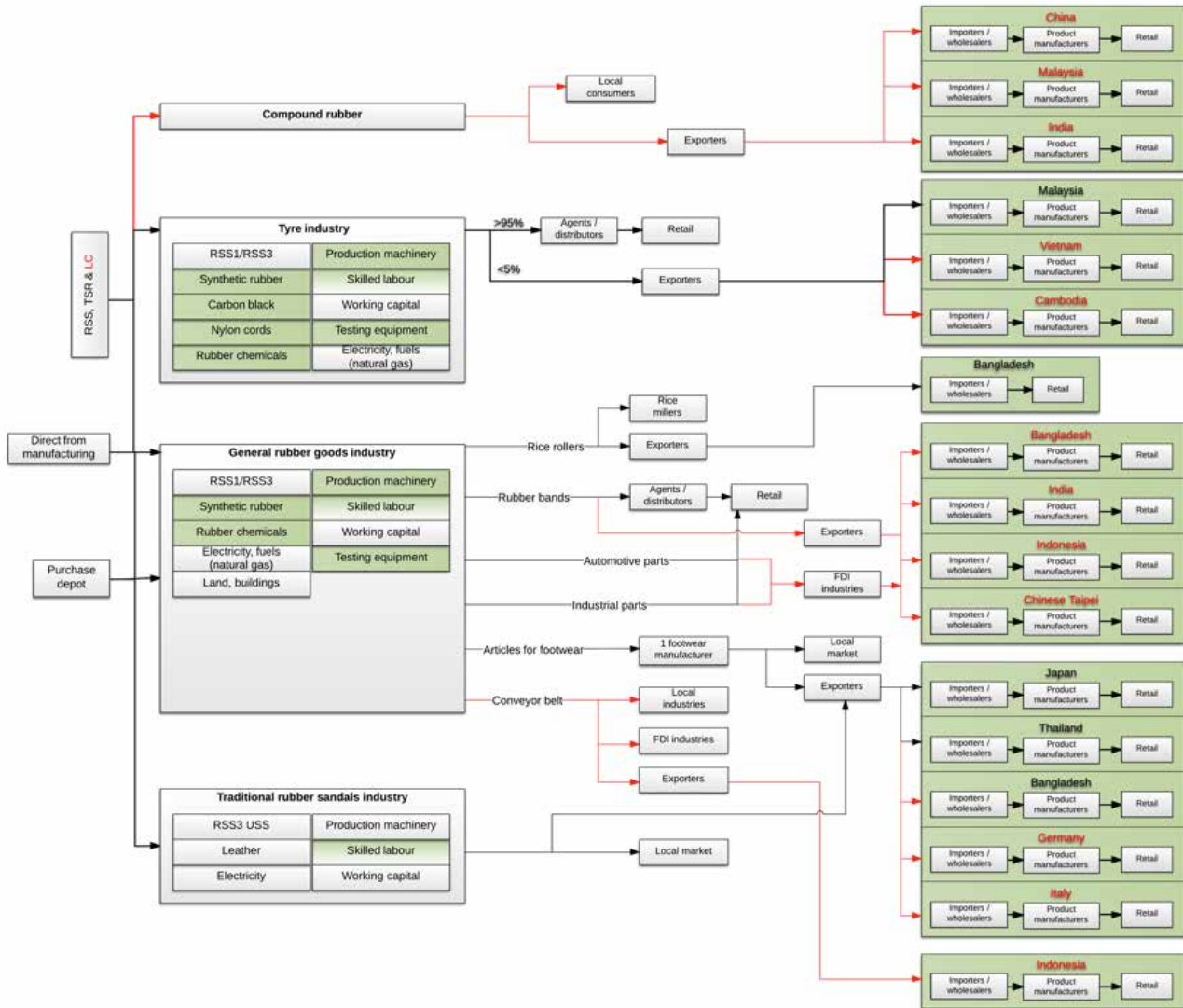


Figure 17: Future value chain (processing)



HOW TO GET THERE

The vision of the strategy "To foster innovation and sustainable growth in national and global rubber value chains" 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.

The rubber products sector vision of becoming a global provider of value added products based on higher productivity and modern production techniques will require the implementation of a realistic and achievable road map to develop the sector. The following section explains the framework that will guide the implementation of the strategy. A detailed PoA indicating what needs to be done and by whom is provided at the end of the section.

STRATEGIC OBJECTIVES

Five strategic objectives are considered necessary for realization of the sector vision.

The first strategic objective is to create an environment for attracting investment and finance into the rubber products sector. This goal will be broadly achieved through the following operational objectives and related activities:

- Improve access to credit for private sector operators
- Create access to low-interest credit
- Establish a risk-sharing organization
- Create the conditions to increase FDI in the sector
- Improve the availability of capital
- Establish a Rubber Development Fund.

The second strategic objective is to establish the regulatory framework and national quality infrastructure for a sustainable and competitive sector along the value chain. This major and crucial objective will be accomplished through six distinct operational objectives:

- Establish a Rubber Board
- Create and enacting rubber nursery regulations
- Establish TSR factory regulations
- Create a centralized registry for the various stakeholders operating along the supply chain
- Improve awareness of quality specifications in rubber (RSS and TSR)
- Establish a quality certification system.

The third strategic objective is to promote Myanmar's natural rubber and related rubber products industry internationally. This goal will be reached through the following operational objectives and related activities:

- Set up a website centralizing relevant information for the sector
- Establish a Myanmar Rubber Trade Promotion Committee
- Increase participation in trade fairs
- Build up cooperatives and organize business matching between buyers and sellers, investors and producers
- Set up a rubber exchange market or central rubber market.

The fourth strategic objective is to strengthen skills, technologies and human resources to create value addition, higher productivity and quality in Myanmar's rubber products sector. This goal will be achieved through three distinct but complementary operational objectives:

- Improve skills and human resources
- Update new technologies
- Establish a Myanmar Rubber Research Institute.

The final strategic objective is to facilitate the availability of land resources and physical infrastructure in the rubber products sector. This will be accomplished through:

- Implementation of land-use rights for forest land as well as for vacant, fallow and waste land;
- Improving the availability and coverage of utilities such as water and electricity;
- Improving communications network accessibility.



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 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. Within this framework, implementation of the rubber products strategy also falls within the purview of the MTDC.

Such efforts involve directing donor and private and public sector organizations towards the various NES priorities in order to avoid duplication and guarantee maximum impact. Responsibilities also 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 rubber 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.





THE REPUBLIC OF THE UNION OF MYANMAR NATIONAL EXPORT STRATEGY

RUBBER PRODUCTS

SECTOR STRATEGY 2015-2019

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 Rubber strategy.



Strategic objective 1: Create an environment for attracting investment and finance into the rubber products sector.								
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 Improve access to credit for private sector operators.	1.1.1 Set up an export/import bank to support exporters. Carry out a feasibility study for establishing the bank and set out its core activities and mandate, legal structure and budgets. Pass the necessary legislation for it. Includes technical assistance only and not the actual funds. 1.1.2 Extend credit to planters. Launch awareness-raising campaigns and organize workshops and meetings to improve understanding of the role of banks in cash flow and investment requirements of the sector, so that risks can be better screened. Includes technical assistance only and not the actual funds. 1.1.3 Extend credit to manufacturers. Launch awareness-raising campaigns and organize workshops and meetings to improve understanding of the role of banks in cash flow and investment requirements of the sector so that risks can be better screened. Includes technical assistance only and not the actual funds.	1	Private sector exporters	<ul style="list-style-type: none"> Bank established Credit issued and outstanding 	Central Bank of Myanmar	MoFR, MoC, MRPPA		300 000
1.2 Create access to low-interest credit.	1.2.1 Lobby and advocate for lower depositor interest (currently set at 8% rather than competitively set), supported by position papers and studies. 1.3 Establish a risk-sharing organization.	1	Private sector, stakeholders	Credit issued with lower baseline interest rates	Central Bank of Myanmar	MoFR, MRPPA		50 000
1.3 Establish a risk-sharing organization.	1.3.1 Under the establishment of an export/import bank, and with support from position papers, lobby and advocate for the provision of credit guarantees to private banks in order to reduce the risk exposure of commercial banks. 1.3.2 Set up a credit insurance or credit guarantee organization in order to reduce the exposure of commercial banks to risk. Prepare a study or position paper on the implications of this with stakeholder consultations.	1	Private sector, banks	<ul style="list-style-type: none"> Credit Guarantee Scheme is established Increase in levels of loans extended by commercial banks 	Central Bank of Myanmar	MoFR, MoC	Small & Medium Industrial Development Bank extends some credits but these are reported as being too limited	50 000
1.4 Improve availability of capital.	1.4.1 Set up a stock market (can raise bonds or equity). Prepare a study or position paper on the likely uptake of shares, the cost to implement, and the supervisory and regulatory role of the Myanmar Stock Exchange. 1.5 Establish a Rubber Development Fund (cess fund).	1	Private sector, stakeholders	<ul style="list-style-type: none"> Companies listed on stock exchange Amount raised through security market 	Myanmar Securities Exchange Centre	MoFR		250 000
1.5 Establish a Rubber Development Fund (cess fund).	1.5.1 Conduct a feasibility study on establishing a Rubber Development Fund for the sector. Cess is a kind of tax. If the study is conclusive, establish the fund and operational guidelines, and have the Myanmar Rubber Board (to be established) set up a collection, management and steering committee. 1.5.2 Use the Rubber Development Fund to promote R&D activities in the rubber products sector. Guidelines will be established to evaluate project proposals and extend grants. Includes technical assistance only and not the actual funds. 1.5.3 Establish the guidelines for extending grants to planters.	1	Planters, some multiplier effects to manufacturers and other stakeholders	<ul style="list-style-type: none"> Study is conducted Fund is established Size of fund 	DICD	MRPPA, MoAI, MoC, MoFR		50 000
		1	Planters, some multiplier effects to manufacturers and other stakeholders	Funds provided for R&D activities	Rubber Development Fund (to be established)	DICD, ARCPC, RITCRP, MoAI, MRPPA		50 000
		1	Planters	Grants issued by the fund	Rubber Development Fund (to be established)	DICD, MRPPA, MoAI		25 000

Strategic objective 2: Establish the regulatory framework and national quality infrastructure for a sustainable and competitive sector along the value chain.

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 Establish a Rubber Board.	2.1.1 Establish a Rubber Board to oversee all activities in rubber products industries, upstream, downstream, marketing, etc. Prepare operational and management guidelines, and necessary legislation and regulations for the establishment of a Rubber Board.	1	All stakeholders	Rubber Board is established and operational.	MoC	MoA, MoI, MRPPA, Trade Promotion Department, DICD, No.2 HIE, UMFFCCI		120 000
2.2 Create and enact rubber nursery regulations.	2.2.1 Introduce a registry system for nurseries, which should be maintained regularly by MoA (DICD). 2.2.2 Inspect rubber nurseries regularly, including budwood nurseries. The inspection should be undertaken by MoA (DICD). 2.2.3 Distribute recommended clones. Make periodic announcements of planting recommendations based on trials conducted by researchers.	2	Planters	» Number of nurseries registered » Statistics on nurseries	Rubber Board (to be set up)	DICD (MoA), MRPPA		100 000
2.3 Establish TSR factory regulations.	2.3.1 Introduce a registry system for TSR factories. 2.3.2 Introduce a programme for inspection and monitoring of the quality of TSR factories (including product quality and waste management).	1	Planters	» Frequency of inspections » Statistics on nurseries » Improved quality of nurseries	Rubber Board (to be set up)	DICD (MoA), MRPPA		150 000
2.4 Create a centralized registry for the various stakeholders operating along the value chain.	2.4.1 Create a central repository for registering all relevant regulations related to producers, processors, traders and exporters. 2.4.2 Create a central registry for registering all relevant producers, processors, traders and exporters along the supply chain for rubber products.	2	TSR processors	Quantity of planting materials distributed	Rubber Board (to be set up), DICD (MoA)	MRPPA		200 000
2.5 Improve awareness of quality specifications in rubber (RSS, TSR).	2.5.1 Provide training to stakeholders (producers, processors, traders and exporters). 2.5.2 Raise awareness through various media.	2	TSR processors	» Number of TSR factories registered » Statistics on the activities of factories	Rubber Board (to be set up), Directorate of Industrial Supervision & Inspection, DICD	MRPPA, Ministry of Science and Technology	Registration at Directorate of Industrial Supervision & Inspection (not inspection on process & quality)	75 000
				» Inspection frequency » Certifications issued	Rubber Board (to be set up), DICD	MRPPA, Ministry of Science and Technology		150 000
				Legislation impacting the rubber products industry, along the entire supply chain, is available in one central repository	Rubber Board (to be set up), DICD, Department of Trade Promotion	MoA, MoC, MRPPA		50 000
				Number of producers, traders and exporters registered	Rubber Board (to be set up), DICD, Department of Trade Promotion	MoA, MoC, MRPPA		75 000
				Number of trainings provided	DICD (ARPCP, RTTCRP), Société Générale de Surveillance, Overseas Merchandise Inspection Company, Myanmar Inspection and Testing Service	MRPPA, Department of Trade Promotion, Société Générale de Surveillance, Overseas Merchandise Inspection Company, Myanmar Inspection and Testing Service	ARPCP, RTTCRP	75 000
				Times of broadcasting & publications	DICD, Ministry of Information	MoA, MoC, MRPPA		100 000

Strategic objective 2: Establish the regulatory framework and national quality infrastructure for a sustainable and competitive sector along the value chain.								
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\$)
2.6 Establish a quality certification system.	2.6.1 Set up a quality control and inspection laboratory in the Yangon area as a pilot study. 2.6.2 Issue quality analysis certificates and obtain international accreditation of labs.	2 1	All stakeholders, rubber products industries All stakeholders, internationally accredited internationally rubber products industries	Use of the laboratory services Laboratory established and accredited internationally Number of certificates issued	Rubber Board (to be set up), DICD (RTTCRP) DICD (RTTCRP)	MoAI, MoC, MRPPA MoAI, MoC, MRPPA	RTTCRP	200 000 50 000
Strategic objective 3: Promote Myanmar's natural rubber and related rubber products industry internationally.								
Operational objective	Activities	Priority 1=high 2=med 3=low	Beneficiaries	Targets	Leading implementing partner	Supporting implementing partners	Existing programmes or potential support	Estimated costs (US\$)
3.1 Promote Myanmar natural rubber and related rubber products.	3.1.1 Carry out a feasibility study for setting up a Myanmar Rubber Trade Promotion Committee (MRTPC). 3.1.2 In collaboration with MoC and the Myanmar Investment Commission, set up the MRTPC. Link the MRTPC to other international organizations. 3.1.3 Set up a website including available types, quality (or grades), sellers list and contacts. 3.1.4 Organize local and international trade fairs and exhibitions (cost sharing) to increase the participation of rubber exporters and producers. 3.1.5 Organize business matching between buyers and sellers, investors and producers. 3.1.6 Reduce the administrative burden and speed up the response time to enquiries, including those from Commercial Consular at Myanmar embassies abroad.	1 1 2 2	All stakeholders All stakeholders All stakeholders All stakeholders	Assess the feasibility of setting up the MRTPC MRTPC set up MRTPC undertakes promotion of rubber products (campaigns) Website set up Number of trade fairs and exhibitions Participation in trade fairs increases Number of business matchings Memorandums of understanding	MRTPC (to be set up) MRTPC (to be set up) MRTPC (to be set up)	MoC, DICD, No. 2 HIE, MRPPA MoC, DICD, No. 2 HIE, MRPPA DICD, MRPPA, MoC No. 2 HIE, MoC	MoC, MRPPA, MoC, MRPPA, UMFCFI	50 000 200 000 20 000 250 000 300 000
3.2 Set up a rubber exchange market or central rubber market.	3.2.1 Conduct a feasibility study for setting up a rubber exchange market or central rubber market in major rubber-producing areas. Prepare terms and regulations, core activities and mandate, as well as budget. 3.2.2 Set up a rubber exchange market in major rubber producing and purchasing areas.	3 3	Rubber planters/producers Rubber planters/producers	Market established Market established and rubber purchased	MoC MoC	MRPPA MRPPA	Ministry of Foreign Affairs, MoI, MoAI, MoC	20 000 100 000 300 000

Strategic objective 4: Strengthen skills, technologies and human resources to create value addition, higher productivity and quality in Myanmar's rubber products sector.								
Operational objective	Activities	Priority 1=high 2=med 3=low	Beneficiaries	Targets	Leading implementing partner	Supporting implementing partners	Existing programmes or potential support	Estimated costs (US\$)
4.1 Improve skills and human resources.	4.1.1 Provide proficiency trainings on: <ul style="list-style-type: none"> » Budding – (50 trainees x 7 days) x 40 trainings/year » Tapping – (50 trainees x 7 days) x 80 trainings/year » Clone identification – (30 trainees x 3 weeks) x 2 trainings/year 	2	Tappers, budders, clone inspectors	Frequency and number of trainings	DICD	MRPPA	DICD runs such programmes but they are not sufficient	700 000
	4.1.2 Provide appropriate on-the-job trainings in key ASEAN markets (Thailand, Indonesia, Malaysia and Viet Nam). <ul style="list-style-type: none"> » Rubber agronomy and nursery operation – (2 trainees x 2 weeks)/year » Clone identification – (2 trainees x 2 weeks)/year » Latex harvesting – (2 trainees x 2 weeks)/year » TSR processing and quality control – (2 trainees x 2 weeks)/year » Rubber products manufacturing and quality control – (2 trainees x 2 weeks)/year 	2	Supervisory staff, technicians	Frequency and number of trainings	DICD	No. 2 HIE, MRPPA	DICD and No. 2 HIE run such programmes locally. Overseas training programmes are also required	250 000
	4.1.3 Provide scholarships for postgraduate diploma or degree courses to universities/institutes, either overseas or local, through the Rubber Development Fund (to be established) and DICD. <ul style="list-style-type: none"> » Eight PhDs (one each for agricultural economics, plant. pathology, plant nutrition/soil science, plant breeding, biotechnology and physiology, and two for agronomy) » Twenty-four MScs (three each for agricultural economics, plant pathology, plant nutrition/soil science, plant breeding, physiology and rubber technology; two for biotechnology; and one for entomology) » Thirty diplomas (five each for agronomy, plant protection, rubber technology, latex technology, rubber products manufacturing and TSR processing) 	2	Researchers, technicians	Number of scholarships provided	Rubber Development Fund (to be established)	DICD, Ministry of Education, No. 2 HIE, MRPPA		1 200 000
4.2 Update new technologies.	4.2.1 Undertake research into innovating in different areas of the rubber products supply chain. With the support of the Rubber Development Fund (to be established), seek sources of financing (public/private or foundations/associations) and associations with international academic and research institutions. <ul style="list-style-type: none"> » Nursery operation – (50 trainees x 2 weeks)/year » Planting and maintenance – (50 trainees x 2 weeks)/year » Latex harvesting – (50 trainees x 2 weeks)/year » RSS and TSR processing – (50 trainees x 2 weeks)/year » Rubber products manufacturing – (50 trainees x 2 weeks)/year 	2	Managers, planters, processors, manufacturers	Frequency and number of trainings	DICD	No. 2 HIE, MRPPA	DICD and No. 2 HIE run such programmes but they are not sufficient	600 000
	4.2.2 Identify best practices overseas and organize/attend – with the support of DICD – workshops and seminars (cost sharing): <ul style="list-style-type: none"> » Overseas – (agronomy, latex harvest, processing and quality management, and rubber products manufacturing) – 10 participants/year » Locally – agronomy – 20 participants/year 	2	Planters, processors, manufacturers	» Research projects funded » Research undertaken	DICD	No. 2 HIE, MRPPA	DICD runs such programmes but they are not sufficient	200 000
4.2.3 Organize, with the support of the Rubber Development Fund (to be established), overseas study tours and visits to overseas operations to learn of new techniques and methods through cost sharing. <ul style="list-style-type: none"> » Four members/visit x two visits/year 	4.2.2 Identify best practices overseas and organize/attend – with the support of DICD – workshops and seminars (cost sharing): <ul style="list-style-type: none"> » Overseas – (agronomy, latex harvest, processing and quality management, and rubber products manufacturing) – 10 participants/year » Locally – agronomy – 20 participants/year 	2	Managers, researchers, stakeholders	» Workshops and seminars attended » Trained personnel	DICD	No. 2 HIE, MRPPA, MoAI, Mol	MRPPA runs such programmes but they are not sufficient	150 000
	4.2.3 Organize, with the support of the Rubber Development Fund (to be established), overseas study tours and visits to overseas operations to learn of new techniques and methods through cost sharing. <ul style="list-style-type: none"> » Four members/visit x two visits/year 	2	Managers, researchers, stakeholders	» Study visits made » Adoption of new techniques and processes by Myanmar operators	DICD	No. 2 HIE, MRPPA	MRPPA runs such programmes but they are not sufficient	200 000

Strategic objective 4 : Strengthen skills, technologies and human resources to create value addition, higher productivity and quality in Myanmar's rubber products sector.								
Operational objective	Activities	Priority 1=high 2=med 3=low	Beneficiaries	Targets	Leading implementing partner	Supporting implementing partners	Existing programmes or potential support	Estimated costs (US\$)
4.2 Update new technologies.	4.2.4 Provide technical assistance to DICD and MRPPA to help them identify and enter membership of international/regional rubber organizations by the Government and the private sector.	1	All stakeholders	Myanmar members increase Improved networking capacity	DICD	MRPPA	MRPPA is a member of the International Rubber Research and Development Board. No Government sector organization is a member of such organizations	100 000
4.3 Establish a Myanmar Rubber Research Institute.	4.3.1 Reorganize ARPC and RTTCRP to undertake upstream and downstream research activities. Study the possibility of establishing these as independent organizations with a plan for financial sustainability.	1	All stakeholders	Myanmar Rubber Research Institute established	Rubber Board (to be set up)	DICD, No. 2 HIE, MRPPA		150 000
Strategic objective 5 : Facilitate availability of land resources and physical infrastructure in the rubber products sector.								
Operational objective	Activities	Priority 1=high 2=med 3=low	Beneficiaries	Targets	Leading implementing partner	Supporting implementing partners	Existing programmes or potential support	Estimated costs (US\$)
5.1 Increase the utilization of land resources.	5.1.1 Reinforce, through the Rubber Board (to be set up) and the MRPPA, dialogue between the private sector and public authorities to implement land-use rights for vacant, fallow and waste land. This is currently not carried out sufficiently or expeditiously. 5.1.2 Implement land-use rights for forest land by preparing feasibility studies, with due consideration for rural communities and the environment.	1	Planters, companies	Land-use rights (area/acres)	MoAI (Settlement and Land Records Department)	Rubber Board (to be set up) MoAI (DICD), MRPPA	The Settlement and Land Records Department runs such programmes but they are not fast enough	200 000
5.2 Improve the national physical infrastructure.	5.2.1 Undertake a feasibility study to improve the surfacing of roads and connectivity of plantations and factories to markets. 5.2.2 Undertake a feasibility study to improve the communications network in terms of accessibility (telephone, fax, e-mail, internet).	2	Planters, companies	Increased mileage of surfaced roads	Ministry of Environmental Conservation and Forestry (Forestry Department)	General Administration Department, City Development Committee	Public Works Department and City Development Committee but does not have an adequate coverage	120 000
5.2.3 Undertake a feasibility study to improve the availability and coverage of electricity, and develop incentive schemes for alternative energy production.		1	Planters, companies, processors, industries	Units in use	Ministry of Electric Power	Regional authorities	Electricity Supply Enterprise does not have adequate coverage	120 000

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APPENDIX 1: SECTOR TEAM MEMBERS

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APPENDIX 2: RUBBER PLANTED AREA AND PRODUCTION (2005-2006 TO 2012-2013)

Year	Planted area (acres)	Productive area (acres)	Production (tons)	Yield (pounds per acre per year)
2005-2006	558 565	267 180	64 239	530.06
2006-2007	728 329	303 907	73 355	532.14
2007-2008	935 800	342 930	88 528	569.13
2008-2009	1 057 395	356 437	93 207	576.50
2009-2010	1 143 427	411 688	111 673	598.02
2010-2011	1 246 531	460 767	127 921	612.06
2011-2012	1 342 202	490 151	149 619	672.96
2012-2013 (p.a.)	1 435 931	527 693	164 425	686.94
2013-2014 (NP)*	1 473 743	565 650	165 097	643.47
2014-2015 (NP)	1 529 315	610 692	178 789	645.43
2015-2016 (NP)	1 590 772	653 110	195 131	658.68

* According to the National Plan for Rubber Planting & Production (2013-2014 to 2015-2016).



APPENDIX 3: INTERNATIONAL NATURAL RUBBER TYPE AND GRADE DESCRIPTION (RSS)

General Specs	Nothing but coagulated rubber sheets, properly dried and smoked, can be used in making these grades; block, cuttings or other scrap or frothy sheets, weak, heated or burnt sheets, air-dried or smooth sheets not permissible.	Slight resinous matter (rust) and slight amounts of dry mould on wrappers, bale surfaces and interior sheets, found at time of delivery will not be objected to.	Oxidized spots or streaks, weak, heated and burnt are not permissible.	The rubber must be dry, firm, and free of blisters. Dirty packing, sand, and all other foreign matter is not permissible
RSS 1	Each bale must be packed free of mould. There is no penetration of mould inside the bale. Small pinhead bubbles, if scattered, will not be objected to.	'Rust' or 'dry mould' in an appreciable extent appears in less than 2.5% of the bales sampled.	Under-cured, oversmoked, opaque sheets are not permissible.	Clean, strong, sound. Free from blemishes and resinous matter (rust)
RSS 2	Small bubbles and slight specks of bark are permissible	'Rust' or 'dry mould' in an appreciable extent appears in less than 5% of the bales sampled.	Under-cured, oversmoked, opaque sheets are not permissible.	Clean, strong, sound and free from blemishes
RSS 3	Slight blemishes in colour, small bubbles and small specks of bark are permissible	'Rust' or 'dry mould' in an appreciable extent appears in less than 10% of the bales sampled.	Under-cured, oversmoked, opaque sheets are not permissible.	Strong and free of blemishes
RSS 4	Medium-size bark particles, bubbles, translucent stains, slightly sticky and slightly oversmoked rubber are permissible	'Rust' or 'dry mould' in an appreciable extent appears in less than 20% of the bales sampled.	Under-cured, oversmoked sheets are not permissible.	Free of blemishes
RSS 5	Bubbles and specks of bark are not objected to.	'Rust' or 'dry mould' in an appreciable extent appears in less than 30% of the bales sampled.		

APPENDIX 4: 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 15 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:

$$\text{Overall performance index} = \frac{A+3B+2C +2D}{8}$$

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: 4005 Compounded rubber, unvulcanized, in primary forms

Importers	Share in world imports (%)	Annual growth in value between 2005-2012 (%) (world average 17%)	Concentration of supplying countries (world average 0.3)	Average tariff (estimated) applied by the country (%)	Overall Performance Index
China	42	33	33	10	0.49
Germany	6	6	11	0	0.51
United States	6	19	43	0	0.38
France	5	11	32	0	0.38
Poland	3	9	29	0	0.37
Canada	3	11	80	0	0.32
Malaysia	1	124	76	0	0.66
India	1	30	10	10	0.53
Indonesia	1	19	24	0	0.41
Singapore	1	47	39	0	0.46
Thailand	1	12	24	0	0.39
Korea, Republic of	1	20	14	7	0.43

Product: 4010 Conveyor or transmission belts or belting of vulcanized rubber

Importers	Share in world imports (%)	Annual growth in value between 2005-2012 (%) (world average 7%)	Concentration of supplying countries (world average 0.07)	Average tariff (estimated) applied by the country (%)	Overall Performance Index
United States	10	8	11	2	0.68
Germany	7	6	7	1	0.70
China	5	12	23	11	0.49
France	5	0	11	1	0.47
Belgium	4	6	17	1	0.52
Australia	4	16	23	3	0.68
Canada	4	10	40	0	0.53
Russian Federation	3	17	10	7	0.72
Indonesia	2	20	15	0	0.77

Product: 4011 New pneumatic tyres, of rubber

Importers	Share in world imports (%)	Annual growth in value between 2009-2012 (%) (world average 11%)	Concentration of supplying countries (world average 0.67)	Average tariff (estimated) applied by the country (%)	Overall Performance Index
United States	17	14	12	1	0.69
Germany	9	12	6	0	0.73
France	5	6	8	0	0.55
Canada	4	10	27	4	0.47
Australia	4	22	15	3	0.67
Mexico	4	19	28	16	0.46
United Kingdom	3	3	10	0	0.46
Indonesia	1	21	26	0	0.60
Korea, Republic of	1	16	18	7	0.49
Thailand	1	26	13	0	0.72
Viet Nam	1	27	22	0	0.69
Philippines	1	26	15	0	0.71
Cambodia	1	24	43	0	0.61
Belarus	1	28	38	37	0.42

Product: 4013 Inner tubes of rubber

Importers	Share in world imports (%)	Annual growth in value between 2009-2012 (%) (world average 7%)	Concentration of supplying countries (world average 0.26)	Average tariff (estimated) applied by the country (%)	Overall Performance Index
United States	10	4	33	1	0.51
Brazil	6	45	55	15	0.64
Nigeria	5	11	82	17	0.32
Germany	4	7	24	0	0.50
Japan	4	1	24	0	0.45
United Arab Emirates	4	-1	35	5	0.39
France	3	3	14	0	0.56
Malaysia	2	31	31	0	0.65
Cambodia	1	21	62	0	0.49
Viet Nam	1	0	23	0	0.41
Bangladesh	1	13	29	11	0.37

Product: 6406 Parts of footwear; removable insoles, heel cushions etc.; gaiters etc.

Importers	Share in world imports (%)	Annual growth in value between 2000-2012 (%) (world average 6%)	Concentration of supplying countries (world average 0.15)	Average tariff (estimated) applied by the country (%)	Overall Performance Index
Italy	12	2	13	0	0.56
Germany	7	5	9	0	0.60
United States	7	5	42	6	0.35
Romania	6	9	37	0	0.43
Japan	5	4	65	12	0.24
Viet Nam	5	13	25	19	0.35
Hong Kong, China	4	4	44	0	0.37
China	4	-1	17	22	0.17
Russian Federation	4	27	60	0	0.50
Indonesia	3	39	19		0.64
Argentina	2	60	30	17	0.60
Brazil	2	54	29	17	0.56
Belarus	1	32	34	0	0.53
Bangladesh	1	25	32	25	0.24

Product: 8437 Machines for cleaning/sorting seed, grain; machinery used in the milling industry

Importers	Share in world imports (%)	Annual growth in value between 2000-2012 (%) (world average 9%)	Concentration of supplying countries (world average 0.07)	Average tariff (estimated) applied by the country (%)	Overall Performance Index
India	7	14	13	7	0.63
Russian Federation	5	18	15	2	0.66
United States	4	3	10	0	0.60
Venezuela	4	24	11	11	0.63
Germany	3	-1	27	0	0.39
Indonesia	3	8	41	0	0.43
Kazakhstan	2	-3	23	2	0.37
Saudi Arabia	2	43	47	5	0.71
Canada	2	7	37	0	0.41
Bangladesh	2	33	23	5	0.68
Viet Nam	2	36	22	0	0.71
Thailand	2	15	22	0	0.53

Product: 400110 Natural rubber latex, whether or not pre-vulcanized

Importers	Share in world imports (%)	Annual growth in value between 2000-2012 (%) (world average 13%)	Unit value (USD/ton) (world average 2005 USD)	Concentration of supplying countries (world average 0.42)	Average tariff (estimated) applied by the country (%)	Overall Performance Index
Malaysia	36	14	3428	99	0	0.49
China	22	19	2146	86	4	0.47
Belgium	7	18	3161	35	0	0.48
United Kingdom	4	17	3358	15	0	0.61
Japan	3	29	4099	75	0	0.47
United States	3	-12	2067	22	0	0.37
Canada	3	24	3660	69	0	0.45
Germany	3	-16	2757	16	0	0.41
Korea, Republic of	2	10	2180	59	0	0.37
Brazil	2	23	2315	39	3	0.48
Indonesia	1	28	2233	33	0	0.52
Thailand	1	17	2479	90	0	0.39
India	1	69	2329	35	69	0.49

Product: 400121 Natural rubber in smoked sheets

Importers	Share in world imports (%)	Annual growth in value between 2009-2012 (%) (world average 2.9%)	Concentration of supplying countries (world average 6.5%)	Average tariff (estimated) applied by the country (%)	Overall Performance Index
China	22	11	65	4	0.55
Japan	16	7	93	0	0.46
India	13	53	26	20	0.82
United States	12	18	77	0	0.53
Malaysia	4	24	34	0	0.63
Brazil	3	7	56	4	0.43
Singapore	3	13	61	0	0.47
France	3	11	81	0	0.43
Korea, Republic of	3	16	91	0	0.45
Germany	3	-6	36	0	0.41
Turkey	2	10	70	0	0.42
Belarus	1	53	99	0	0.70

Product: 400122 Technically specified natural rubber

Importers	Share in world imports (%)	Annual growth in value between 2009-2012 (%) (world average 2.9%)	Concentration of supplying countries (world average 6.2%)	Average tariff (estimated) applied by the country (%)	Overall Performance Index
China	30	27	31	4	0.60
United States	17	20	53	0	0.47
Japan	10	19	59	0	0.43
Korea, Republic of	7	21	36	0	0.47
Malaysia	5	52	27	0	0.60
Germany	4	50	18	0	0.67
India	3	43	24	20	0.46
France	2	19	22	0	0.52
Brazil	2	120	40	3	0.75
Turkey	2	19	41	0	0.43

Product: 401699 Articles of vulcanized rubber n.e.s., other than hard rubber

Importers	Share in world imports (%)	Annual growth in value between 2000-2012 (%) (world average 8%)	Concentration of supplying countries (world average 0.07)	Average tariff (estimated) applied by the country (%)	Overall Performance Index
Germany	12	6	7	0	0.68
United States	12	14	13	1	0.64
China	6	12	13	13	0.43
Mexico	5	11	27	6	0.41
Japan	4	7	22	0	0.44
Thailand	4	12	21	0	0.49
France	4	0	10	0	0.47
United Kingdom	3	9	10	0	0.54
Italy	3	3	11	0	0.47
India	2	16	8	10	0.58
Indonesia	2	19	21	0	0.53
Korea, Republic of	1	10	21	6	0.38
Malaysia	1	11	13	0	0.50
Viet Nam	1	11	23	0	0.44
Bangladesh	0	40	17	15	0.60

Product: 440399 Logs, non-coniferous n.e.s.

Importers	Share in world imports (%)	Annual growth in value between 2000-2012 (%) (world average 9%)	Concentration of supplying countries (world average 0.05)	Average tariff (estimated) applied by the country (%)	Overall Performance Index
China	48	17	8	1	0.77
India	23	22	29	5	0.56
Finland	5	-10	57	0	0.21
Sweden	4	-4	32	0	0.29
Taipei, Chinese	2	1	43	0	0.31
Portugal	2	45	80	0	0.66
Canada	2	-4	100	0	0.24
Japan	1	2	21	0	0.36
Korea, Republic of	1	-4	21	0	0.31
Malaysia	0	6	24	0	0.38

Product: 440799 Lumber, non-coniferous n.e.s.

Importers	Share in world imports (%)	Annual growth in value between 2000-2012 (%) (world average 6%)	Concentration of supplying countries (world average 0.03)	Average tariff (estimated) applied by the country (%)	Overall Performance Index
China	42	27	19	2	0.88
Thailand	4	-3	51	0	0.27
Italy	3	-13	10	0	0.33
Viet Nam	3	4	48	0	0.37
Japan	3	4	19	1	0.45
United States	3	-3	18	0	0.36
Israel	3	8	18	0	0.51
Taipei, Chinese	2	3	33	0	0.37
United Kingdom	2	1	15	0	0.44
Philippines	2	21	35	0	0.62
Korea, Republic of	2	5	18	3	0.46
India	1	23	17	9	0.66

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

Importers	Share in world imports (%)	Annual growth in value between 2005-2012 (%) (world average 1%)	Concentration of supplying countries (world average 0.15)	Average tariff (estimated) applied by the country (%)	Overall Performance Index
United States	21	-1	32	0	0.42
Germany	9	6	13	0	0.57
France	6	-5	10	0	0.39
Japan	6	6	27	0	0.47
United Kingdom	6	-6	18	0	0.28
Canada	3	2	23	3	0.39
Switzerland	3	4	18	0	0.45
Russian Federation	3	11	13	34	0.38
Netherlands	3	-3	10	0	0.41
China	1	20	8	10	0.82

Product: 940421 Mattresses of cellular rubber or plastics, whether or not covered

Importers	Share in world imports (%)	Annual growth in value between 2005-2012 (%) (world average 6%)	Concentration of supplying countries (world average 0.12)	Average tariff (estimated) applied by the country (%)	Overall Performance Index
United States	19	26	55	0	0.69
Germany	12	5	41	0	0.48
France	7	2	30	0	0.46
Japan	6	11	34	1	0.52
Netherlands	5	-9	24	0	0.39
Canada	4	10	41	5	0.48
Switzerland	4	7	20	0	0.56
Austria	4	5	22	0	0.53
Italy	3	1	25	0	0.46
Australia	2	2	29	0	0.44
Korea, Republic of	2	42	18	7	0.83

Rubber products: overall performance indexes

IMPORTERS	PRODUCTS													
	HS4005	HS4010	HS4011	HS4013	HS6406	HS8437	HS400110	HS400121	HS400122	HS401699	HS440399	HS440799	HS940360	HS940421
Argentina					0.60									
Australia		0.68	0.67											0.44
Austria														0.53
Bangladesh				0.37	0.24	0.68				0.60				
Belarus			0.42		0.53			0.70						
Belgium		0.52					0.48							
Brazil				0.64	0.56		0.48	0.43	0.75					
Cambodia			0.61	0.49										
Canada	0.32	0.53	0.47			0.41	0.45				0.24		0.39	0.48
China	0.49	0.49			0.17		0.47	0.55	0.60	0.43	0.77	0.88	0.82	
Finland											0.21			
France	0.38	0.47	0.55	0.56				0.43	0.52	0.47			0.39	0.46
Germany	0.51	0.70	0.73	0.50	0.60	0.39	0.41	0.41	0.67	0.68			0.57	0.48
Hong Kong, China					0.37									
India	0.53					0.63	0.49	0.82	0.46	0.58	0.56	0.66		
Indonesia	0.41	0.77	0.60		0.64	0.43	0.52			0.53				
Israel												0.51		
Italy					0.56							0.33		0.46
Japan				0.45	0.24		0.47	0.46	0.43	0.44	0.36	0.45	0.47	0.52
Korea, Rep. of	0.43		0.49				0.37	0.45	0.47	0.38	0.31	0.46		0.83
Malaysia	0.66			0.65			0.49	0.63	0.60	0.50	0.38			
Mexico			0.46							0.41				
Netherlands													0.41	0.39
Philippines			0.71									0.62		
Poland	0.37													
Portugal											0.66			
Romania					0.43									
Russian Fed		0.72			0.50	0.66							0.38	
Saudi Arabia						0.71								
Singapore	0.46							0.47						
Sweden											0.29		0.45	0.56
Taipei, Chinese											0.31	0.37		
Thailand	0.39		0.72			0.53	0.39			0.49		0.27		
Turkey								0.42	0.43					
UAE				0.39										
United States			0.46				0.61			0.54		0.44	0.28	
United Kingdom	0.38	0.68	0.69	0.51	0.35	0.60	0.37	0.53	0.47	0.64		0.36	0.42	0.69
Venezuela						0.63								
Viet Nam			0.69	0.41	0.35	0.71				0.44		0.37		





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