



# **SWOT Analysis: Critical Intervention Areas of Myanmar Rubber Industry**

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- SWOT analysis on rubber marketing and trade sector

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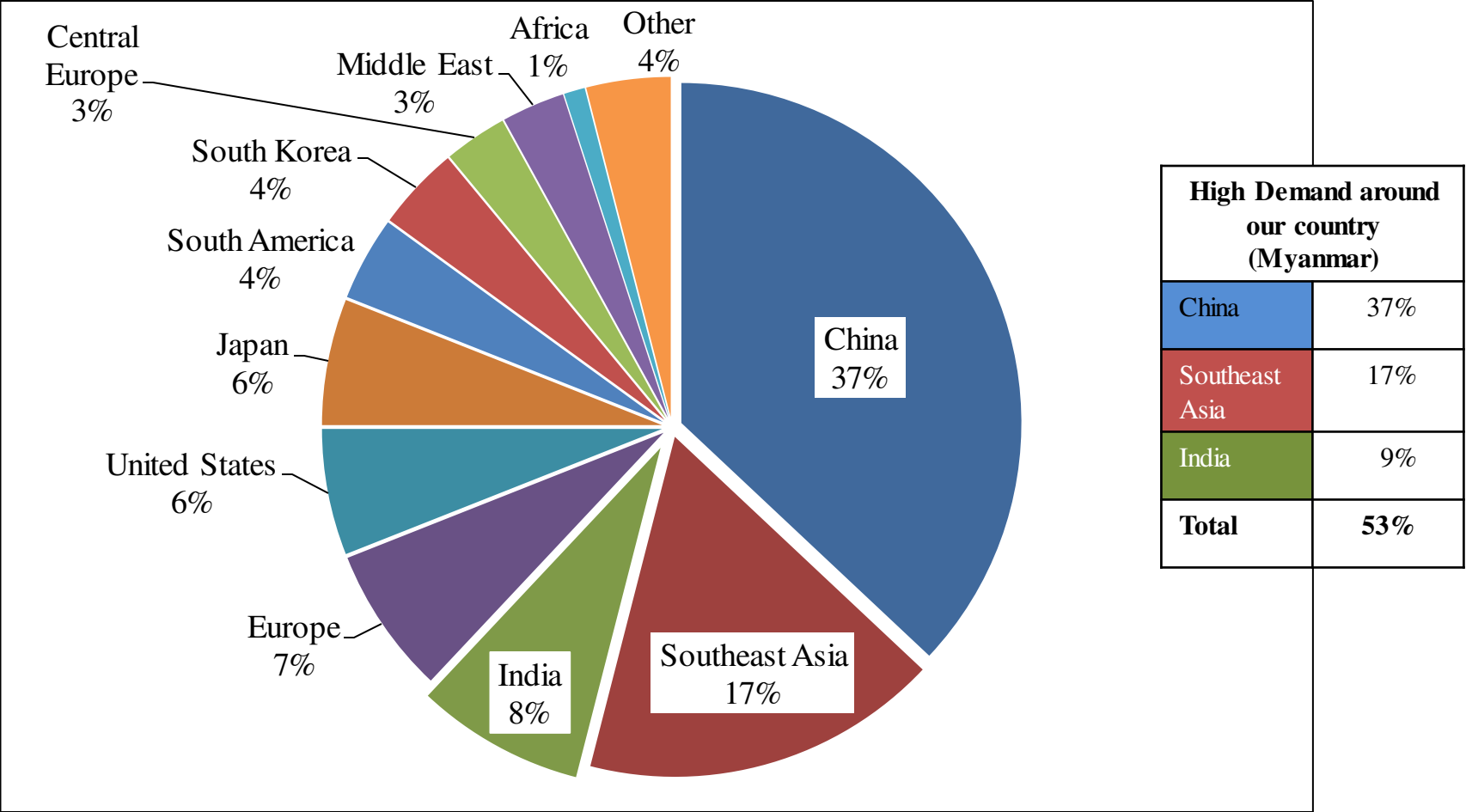
# **Introduction**

# Introduction

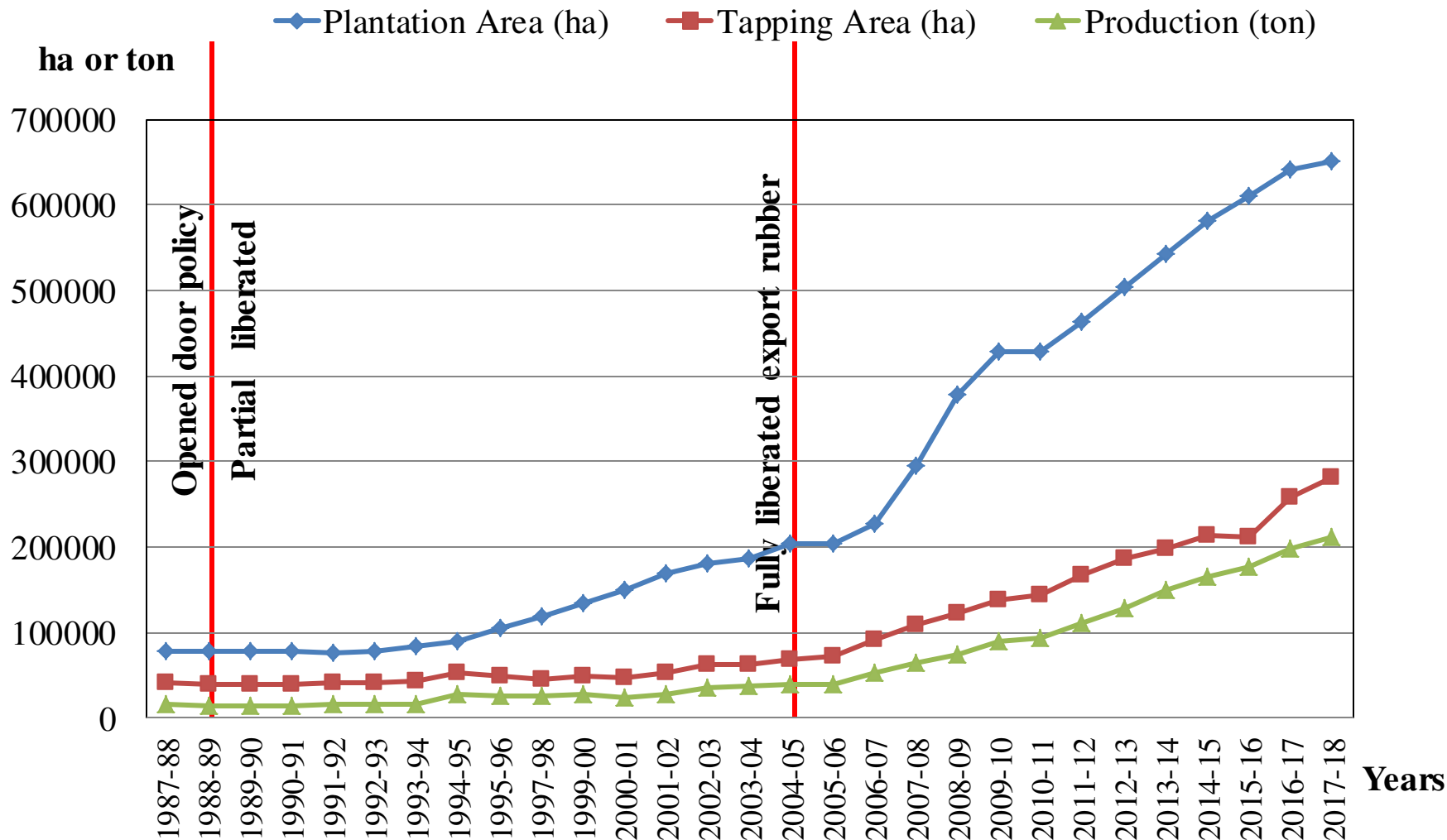
## Natural Rubber Industry in Myanmar

- Agriculture sector is important for attempt to increase income, alleviate of poverty and upgrade living standard of rural people
- Rubber industry is also important in agriculture sector because it employed between 350,000 and 400,000 workers  
(Japan International Cooperation Agency [JICA], 2015)
- Geographic position and climate conditions make potential drivers for growth and development of rubber plantation
- Myanmar becomes a large exporter among the NR producing countries

# Rationale of the Study



**Figure 1. World consumption of natural rubber (IHS Markit, 2017)**



**Figure 2. Trend of Myanmar rubber industry with alternative policies during 1988 to 2018 (Department of Agriculture [DOA], 2019)**

- However, the national average yield per area was lower than that of other rubber producing countries and it produced poor quality rubber with lower market price (JICA, 2015)
- Reasons of the low yield level, poor quality and lack of price incentive would be;
  - ❖ Land tenure problem
  - ❖ Recommended clones are outdated
  - ❖ Skilled labour scarcity
  - ❖ Limited access to improved technology
  - ❖ Impact of climate change
  - ❖ Lack of quality product market and quality control
  - ❖ Weak correlation with world rubber price
  - ❖ Poor bargaining power of farmer
  - ❖ Inefficient transportation facilities

# Objectives of the Study

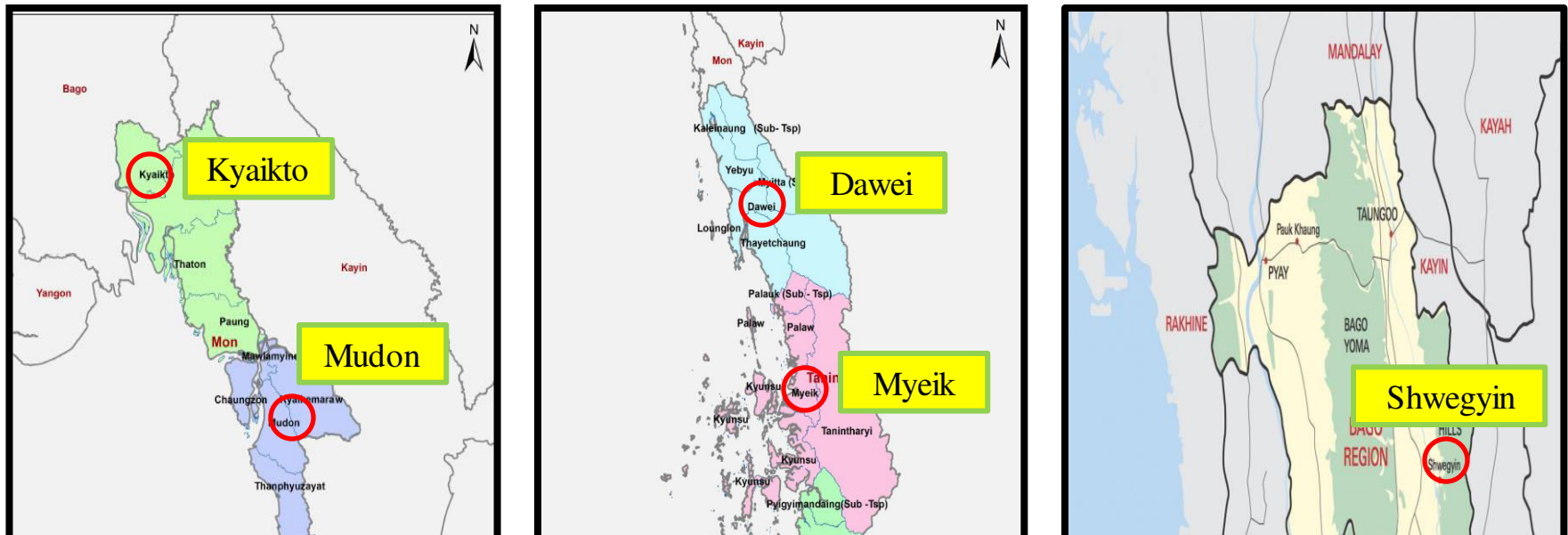
- To clarify the current situation of the rubber industry including production, processing, marketing and trade sectors using SWOT analysis
- To formulate the possible specific strategies for the development of the rubber industry
- To identify critical intervention areas to sustain the development of the rubber industry



# **Research Methodology**

# Primary Data Collection

## Survey Area Selection Criteria and Selected of Study Areas



- Primary criterion was the areas should have large amount of rubber planting areas
- Second criterion for selection was assessment on high ratio of total tapping area to planting area
- Presence of main stakeholders should also be considered

Figure 3. Maps of study areas by Districts and Townships

## Sampling Method and Data Collection

### Proportionate Stratified Random Sampling and Purposive Sampling

**Table 1. Types of stakeholder and methods of data collection for SWOT analysis**

<b>Methods</b>	<b>Interviewing</b>	<b>FGD</b>
<b>Types of stakeholder</b>	Rubber farmers with different farm sizes	Rubber Farmers, Middlemen, Institutional Representatives
	75 respondents	9 FGDs

## ➤ Proportionate Stratified Random Sampling

Smallholder	< 8.5 ha
Middle holder	> 8.5 ha - 20.25 ha
Large holder (Estate)	> 20.25 ha

(Source: DOA, 2019)

### Data Collection

**Table 2. Sample size for rubber farmers in selected survey areas**

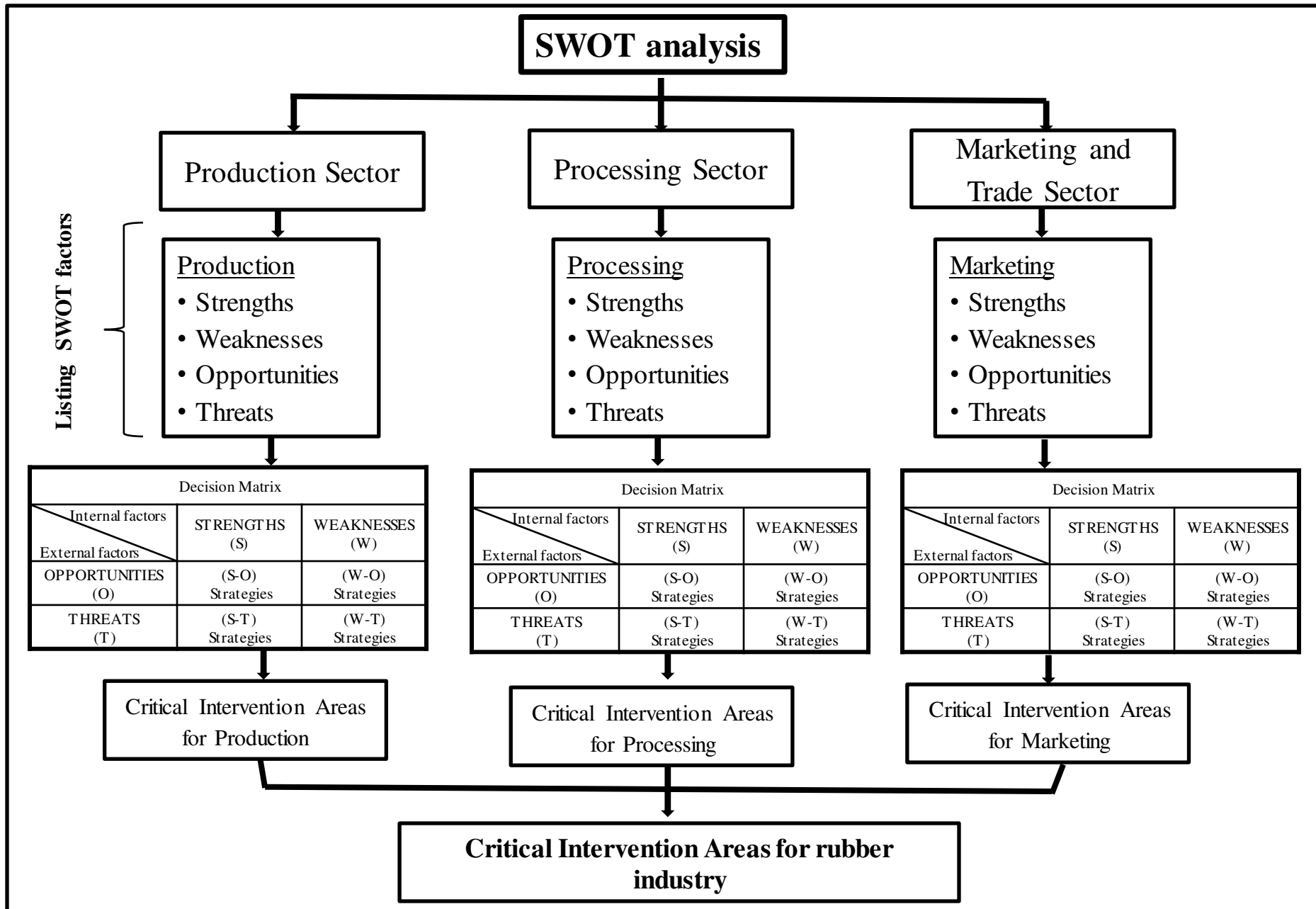
Types/Townships	Kyaikto	Mudon	Dawei	Myeik	Shwegyin	Total
Smallholder	10	13	12	12	8	<b>55</b>
Middle holder	3	1	2	2	5	<b>13</b>
Large holder	2	1	1	1	2	<b>7</b>
<b>Total</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>75</b>

# Purposive Sampling

**Table 3. Information of Stakeholders' focus group discussions in study areas**

Stakeholder	Rubber Farmer				Institutional representative			Middlemen		Total
<b>Particular</b>	FGD (1)	FGD (5)	FGD (6)	FGD (9)	FGD (2)	FGD (4)	FGD (8)	FGD (3)	FGD (7)	(9) Focus groups
<b>Region\State</b>	Mon	Bago	Tanintharyi	Tanintharyi	Mon	Mon	Tanintharyi	Mon	Tanintharyi	2 Regions + 1 State
<b>Township</b>	Kyaikto	Shwegyin	Dawei	Myeik	Kyaikto	Mawlamyine	Myeik	Mudon	Myeik	(5) Townships
<b>Location</b>	Golden Bless hotel	DOA office-Shwegyin	Bamboo house restaurant	Daw Cooperatives' office	Golden Bless hotel	PCRDC-DOA (Mawlamyine)	DOA office (Myeik District)	PCRDE-DOA (Mudon)	DOA office (Myeik District)	(7) locations
<b>Date / time</b>	30 <sup>th</sup> Oct. 2018 (11:30 am)	1 <sup>st</sup> Nov. 2018 (2:45 pm)	12 <sup>th</sup> Dec. 2018 (3:30 pm)	15 <sup>th</sup> Dec. 2018 (9:30 am)	30 <sup>th</sup> Oct. 2018 (5:30 pm)	31 <sup>st</sup> Oct. 2018 (3:30 pm)	14 <sup>th</sup> Dec. 2018 (4:00 pm)	31 <sup>st</sup> Oct. 2018 (1:30 pm)	14 <sup>th</sup> Dec. 2018 (1:30 pm)	30 <sup>th</sup> Oct.-15 <sup>th</sup> Dec. 2018
<b>No. of stakeholder</b>	20	13	10	16	8	11	8	11	6	11.44
<b>Age (Year)</b>	52.6	50.3	52.1	51.1	48.7	47.5	46.7	48	43.3	48.8
	(30 -77)	(38-63)	(33-65)	(32-68)	(37-56)	(40-58)	(38-55)	(31-62)	(35-52)	(30-77)
<b>Rubber experience (Year)</b>	20.3	20	19.7	11.3	18.8	21	17.5	13.7	17.3	17.7
	(2-50)	(5-35)	(10-35)	(4-20)	(5-27)	(4-31)	(5-25)	(2-28)	(10-32)	(2-50)

# Method of Analysis



**Figure 7. Steps of SWOT analysis for rubber industry (Weirich, 2009)**

		<b>Internal Origin</b>	
		STRENGTHS (S)	WEAKNESSES (W)
<b>Internal</b>		S1. Internal Strength S2. Internal Strength S3. Internal Strength	W1. Internal Weakness W2. Internal Weakness W3. Internal Weakness
<b>External</b>			
<b>External Origin</b>	<b>OPPORTUNITIES (O)</b>	↓	↓
	O1. Industry Opportunity O2. Industry Opportunity O3. Industry Opportunity	<b>S-O Strategies</b> <u>(Using internal strengths to take advantages of external opportunities)</u>	<b>W-O Strategies</b> <u>(Taking advantage of external opportunities to offset or mitigate internal weaknesses)</u>
	T1. External Threat T2. External Threat T3. External Threat	<b>S-T Strategies</b> <u>(Using internal strengths to mitigate or minimize external threats)</u>	<b>W-T Strategies</b> <u>(Strategies that minimizes both internal weakness and external threats)</u>
	T1. External Threat T2. External Threat T3. External Threat	• S-O Idea Description (S1,O2) • S-O Idea Description (S2,O1) • S-O Idea Description (S3,O3)	• W-O Idea Description (O1,W2) • W-O Idea Description (O2,W3) • W-O Idea Description (O3,W1)
	• S-T Idea Description (S3,T2) • S-T Idea Description (S1,T3) • S-O Idea Description (S2,T1)	• W-T Idea Description (T3,W3) • W-T Idea Description (T2,W1) • W-T Idea Description (T1,W2)	

# **Results and Discussion**



# SWOT analysis on rubber production sector

Internal Origin		External Origin	
<b><u>Strength</u></b>	<b><u>Weaknesses</u></b>	<b><u>Opportunities</u></b>	<b><u>Threats</u></b>
<ul style="list-style-type: none"> <li>• High domestic market demand</li> <li>• Fertile soil</li> <li>• Stable income</li> <li>• Usefulness of family labour</li> <li>• Strong public and private institutions</li> <li>• Favorable climate condition</li> <li>• Skilled labour</li> <li>• High women participation</li> </ul>	<ul style="list-style-type: none"> <li>• Land tenure system</li> <li>• Low yield</li> <li>• Quality of rubber seedling</li> <li>• Very limited alternative crops</li> <li>• Labour scarcity and high labour cost</li> <li>• Low access to technology</li> <li>• Very limited financial sources</li> <li>• Limited and outdated recommended rubber clones</li> </ul>	<ul style="list-style-type: none"> <li>• Cooperation and coordination between public and private</li> <li>• Internal immigrated labour force</li> <li>• Cheaper labour cost than other areas</li> <li>• Remittance for invest</li> <li>• Possibility of diversification</li> <li>• More research activities</li> </ul>	<ul style="list-style-type: none"> <li>• World price crush and low domestic price</li> <li>• Climate change</li> <li>• Increasing rubber supply</li> <li>• Synthetic rubber substitution</li> </ul>

<b>Internal factors</b>		<b>Internal Origin</b>			
		<b>STRENGTHS (S)</b>		<b>WEAKNESSES (W)</b>	
		S1.Favorable climatic condition		W1.Land tenure problems	
		S2.Strong public and private institutions		W2.Low yield labour scarcity and high labour cost	
<b>External factors</b>		S3.Usefulness of family labour		W3.Limited and outdated of recommended clones and low quality seedlings	
		↓		↓	
<b>External Origin</b>	<b>OPPORTUNITIES (O)</b>	→		→	
	O1.Internal immigrated labour force	<b>S-O Strategies</b> (Using internal strength to take advantage of external opportunities)		<b>W-O Strategies</b> (Taking advantages of opportunities to offset internal weaknesses )	
	O2.Cooperation and coordination between public and private				
	O3.More research activities	S2O1-Provide appropriate training to immigrate labours for better performance	W1O2-Facilitated to the better land tenure system		
	O4.Possibility of diversification	S2O4-Find appropriate and profitable diversification model	W2O3-Research programs on yield improvement and tapping technique for low cost		
		S2O3-Encourage research activities on increase rubber production	W3O1-Training for immigrated labour to prevent labour shortage		
		S2O2-Initiated and encouraged farmer groups or cooperatives for efficient production	W3O3-Provide clones recommendation and control nursery for quality seedlings		
	<b>THREATS (T)</b>	→		→	
	T1.Increasing the volume of rubber production	<b>S-T Strategies</b> (Using internal strength to mitigate or minimize external threats)		<b>W-T Strategies</b> (Strategies that minimize both internal weakness and external threats)	
	T2.World price crush and low domestic price				
T3.Climate change					
	S2T1-Adjust rubber area expansion to control production	W2T2- Promote yield per area and reduce cost for tolerated to price crush			
	S2T2-Provide the training that reduced production cost and increase yield for comparative business	W2T3-Find climate-smart production practices for increased yield			
	S2T3-Provide the production practices that overcome climate change				

# List of the possible strategies for production sector

## **S-O Strategies**

(Using internal strength to take advantages of opportunities)

S2O1- Provide appropriate trainings to immigrate labours

S2O4- Find appropriate diversification model

S3O2- Initiated and encouraged farmer groups or cooperatives

S2O3- Encourage research activities on rubber production

## **S-T Strategies**

(Using internal strength to mitigate or minimize of external threats)

S2T1- Adjust rubber area expansion

S2T2- Provide the training that reduced production cost for comparative business

S2T2- Provide the training that increased yield for comparative business

## **W-O Strategies**

(Taking advantages of opportunities to offset internal weaknesses )

W1O2- Facilitated to better land tenure system

W3O1- Training for immigrated labour and created the better environment to solve labour shortage

W2O3- Planning for research programs on yield improvement

W4O3- Update and provide clones recommendation and control quality of seedling by nursery registration

## **W-T Strategies**

(Strategies that minimize both internal weakness and external threats)

W2T2- Promote yield per area for tolerated to price crush

W2T3- Find climate smart production practices for increased yield

W1T1- Control rubber planting areas with better land tenure system

## Critical intervention areas and possible strategies for production sector

- |                                     |  |
|-------------------------------------|--|
| • <b>Land tenure system</b>         | • Facilitated to better land tenure system           |
| • <b>Quality of rubber seedling</b> | • Control by nursery registration                    |
| • <b>Research and development</b>   | • Research programme for yield improvement           |
| • <b>Training and education</b>     | • Provide production trainings and capacity building |

# SWOT analysis on rubber processing sector

Internal Origin		External Origin	
<u>Strength</u>	<u>Weaknesses</u>	<u>Opportunities</u>	<u>Threats</u>
<ul style="list-style-type: none"> <li>• Low invest cost for processing</li> <li>• Available processing knowledge and techniques</li> <li>• Available of buyers for any form of rubber</li> <li>• Strong public and private institutions</li> <li>• Possibility of family labour used</li> <li>• Possibility of selling latex and cup lump</li> </ul>	<ul style="list-style-type: none"> <li>• Low grade rubber produced</li> <li>• Low domestic utilization</li> <li>• Require for premium price</li> <li>• Land tenure system</li> <li>• Limited rubber processing factories</li> <li>• Very limited financial sources</li> </ul>	<ul style="list-style-type: none"> <li>• Increase number of processing factories</li> <li>• More interest in cooperative' type of processing</li> <li>• Cooperation and coordination between private and public sectors</li> </ul>	<ul style="list-style-type: none"> <li>• Low correlated with world price</li> <li>• World price crush and low domestic market price</li> <li>• Bad image on quality of rubber produced in world market</li> <li>• Mostly used Sulphuric acid</li> </ul>

<b>Internal factors</b>     <b>External factors</b>		<b>Internal Origin</b>				
		<b>STRENGTHS (S)</b>	<b>WEAKNESSES (W)</b>			
		S1. Strong public and private institutions	W1. Land tenure problems			
		S2. Possibility of selling latex and cup lump	W2. Mostly produce low-grade rubber			
		S3. Usefulness of family labour	W3. Limited rubber processing factories			
		S4. Availability of processing knowledge and technologies	W4. Low domestic utilization			
<b>External Origin</b>		<b>OPPORTUNITIES (O)</b>				
		→	<b>S-O Strategies</b> (Using internal strength to take advantage of external opportunities)	<b>W-O Strategies</b> (Taking advantages of opportunities to offset internal weaknesses)		
			S2O1- Initiated and supported rubber processing and products factories	W1O2- Facilitated to the better land tenure system		
			S1O3- Encouraged farmer groups or cooperatives	W2O3- Initiated cooperative mass quality production		
			S4O1- Provide training for better quality rubber processing	W3O4- Facilitated for selling latex directly to processing factories		
				W4O2- Initiated and supported rubber processing and products factories		
		<b>THREATS (T)</b>		<b>S-T Strategies</b> (Using internal strength to mitigate or minimize external threats)		
		→	<b>W-T Strategies</b> (Strategies that minimize both internal weakness and external threats)			
			S3T1- Reduce processing cost by family labour for comparative business	W4T1- Promote domestic utilization		
			S2T2- Find potential international markets for quality rubber	W2T3- Encourage processing better qualities rubber and find markets		
S2T3- Control the exported rubber quality	W2T3- Training and education in processing technologies for better quality rubber					

# List of the possible strategies for processing sector

## **S-O Strategies**

(Using internal strength to take advantages of opportunities)

S2O1- Supported rubber processing for latex and cup lump market

S1O3- Initiated and encouraged farmer groups or cooperatives

S4O1- Provide training for quality rubber processing

## **S-T Strategies**

(Using internal strength to mitigate or minimize of external threats)

S2T1- Reduce processing cost by family labour for comparative business

S2T2- Find potential international market for quality rubber

S2T3- Control the exported rubber quality

## **W-O Strategies**

(Taking advantages of opportunities to offset internal weaknesses )

W1O2- Facilitated to better land tenure system

W2O3- Initiated cooperative mass quality production

W3O4- Facilitated for selling latex directly to processing factories to reduce labour

W4 O2- Initiated and supported rubber processing and products manufacturing factories

## **W-T Strategies**

(Strategies that minimize both internal weakness and external threats)

W4T1- Promote domestic utilization

W5T3- Encourage processing quality rubber and find markets

W2T3- Training and education in processing technologies for quality rubber

## Critical intervention areas and possible strategies for processing sector

- |                                     |   |
|-------------------------------------|---|
| • <b>Land tenure system</b>         | • Facilitated to better land tenure system        |
| • <b>Quality of rubber produced</b> | • Control by quality certification                |
| • <b>Training and education</b>     | • Provide trainings for quality rubber processing |
| • <b>Domestic utilization</b>       | • Encouraged the rubber processing factories      |



# SWOT analysis on rubber marketing and trade sector

Internal Origin		External Origin	
<u>Strength</u>	<u>Weaknesses</u>	<u>Opportunities</u>	<u>Threats</u>
<ul style="list-style-type: none"> <li>• High demand of domestic market</li> <li>• Possibility of storage</li> <li>• Possibility of family labour used</li> <li>• Good market mechanism</li> <li>• Price informations are transparency and certain</li> <li>• High women participation</li> <li>• Strong public and private institutions</li> </ul>	<ul style="list-style-type: none"> <li>• Limited domestic utilization</li> <li>• Limited alternative buyers</li> <li>• Cost of transportation</li> <li>• Trust between buyer and seller</li> <li>• More bargaining power by middlemen</li> <li>• Very few financial sources</li> <li>• Price informations are not transparency and certain</li> </ul>	<ul style="list-style-type: none"> <li>• World tire' companies interest in sustainable rubber purchasing</li> <li>• High demand from neighbouring countries</li> <li>• Increased world demand</li> <li>• Increased quality rubber exporting companies</li> </ul>	<ul style="list-style-type: none"> <li>• World rubber production volume</li> <li>• Limited high rubber quality markets</li> <li>• Domestic production volume</li> <li>• Monopolized by China supported exporters</li> </ul>

<p style="text-align: center;"><b>Internal factors</b></p>		<b>Internal Origin</b>	
		<b>STRENGTHS (S)</b>	<b>WEAKNESSES (W)</b>
		S1. Good market mechanism	W1. Limited domestic utilization
		S2. Possibility of storage	W2. Limited alternative buyer and more bargaining power by middlemen
		S3. Strong public and private institutions	W3. Price information is not transparency
<p style="text-align: center;"><b>External factors</b></p>		S4. High women participation	
		↓	↓
	<b>OPPORTUNITIES (O)</b>	<b>S-O Strategies</b> (Using internal strength to take advantage of external opportunities)	<b>W-O Strategies</b> (Taking advantages of opportunities to offset internal weaknesses)
	O1. High demand from neighbouring countries	S1O1- Promote the trade between rubber imported countries	W2O3- Facilitated for export quality rubber and created favorable environment for investment
	O2. World's tire companies interest sustainable rubber	S3O2- Initiated the sustainable rubber production	W3O1- Provide reliable market information from neighbouring countries
	O3. Increase quality rubber exporting companies	S3O3- Facilitated for export quality rubber and created favorable environment for investment	W1O2 Promote domestic utilization by invite world's tire companies for tire manufacturing
	<b>THREATS (T)</b>	<b>S-T Strategies</b> (Using internal strength to mitigate or minimize external threats)	<b>W-T Strategies</b> (Strategies that minimize both internal weakness and external threats)
	T1. High volume world rubber production and price crush	S3T1- Provide capacity building to be comparative business	W1T1- Adjust rubber production with domestic consumption
	T2. Limited high quality rubber markets	S3T2- Find potential international market for quality rubber	W2T2- Promote market efficiency and quality market
	T3. Mainly relied on China market and low correlated with world rubber price	S1T3- Provide world rubber market information and promote market efficiency	W3T2- Provide reliable market information and find potential quality market

# List of the possible strategies for marketing and trade sector

## **S-O Strategies**

(Using internal strength to take advantages of opportunities)

S1O1- Promote the trade between rubber imported countries

S3O2- Initiated the sustainable rubber production

S3O3- Facilitated for export quality rubber and created favorable environment for investment

## **S-T Strategies**

(Using internal strength to mitigate or minimize of external threats)

S1T1- Provide capacity building to be comparative business

S3T3- Find potential international market for quality rubber

S3T4- Provide world rubber market information and promote market efficiency

## **W-O Strategies**

(Taking advantages of opportunities to offset internal weaknesses )

W2O3- Facilitated for export quality rubber and created favorable environment for investment

W3O1- Provide reliable market information from neighbouring countries

## **W-T Strategies**

(Strategies that minimize both internal weakness and external threats)

W1T1- Adjust rubber production with domestic consumption

W2T2- Promote market efficiency and quality market

W3T2- Provide reliable market information and find potential quality market

## Critical intervention areas and possible strategies for marketing and trade sector

- **International market (Trade promotion)**
  - Find potential international markets
- **Domestic market**
  - Provide reliable market information

# Conclusion

## **In rubber production sector**

- Facilitated better the land tenure system for rubber farmers
- Control the quality of rubber seedling
- Research and development for improved yield per unit area
- Training and education for production practices

## **In the processing sector**

- Facilitated better land tenure system for rubber processing factories
- Control for quality of rubber producer
- Training and education for quality rubber processing technologies
- Promote domestic utilization

## **In rubber marketing and trade sector**

- Finding potential international markets
- Accelerated to promote the domestic market efficiency

- Finally, as nature of perennial crops, it is not simply implied that the interventions for rubber industry
- Considered for not only short term planning but also long term strategic planning which will protect the livelihood of stakeholders,
- Especially for rubber farmers and ensuring sustained the development of rubber industry in Myanmar

**Thanks a lot for your kind attention!**

