



# **Business Development of Downstream Agro-Industries**

*Tin Maung Shwe*

# Diverse Agro-ecology

## Hilly Region

Semi-temperate to Temperate

Temp: min 18.9 °C max 30.4 °C

Annual Rainfall: Kachin: 1800-2300

Shan: 1000 – 1300 mm

## Dry Zone

Semi-arid

Temp: min 20.0 °C max 34.0 °C

Annual Rainfall: 920-980 mm

## Delta Area

Semi-tropics to tropics

Temp: min 22.3 °C max 32.8 °C

Annual Rainfall: 1400-2800 mm

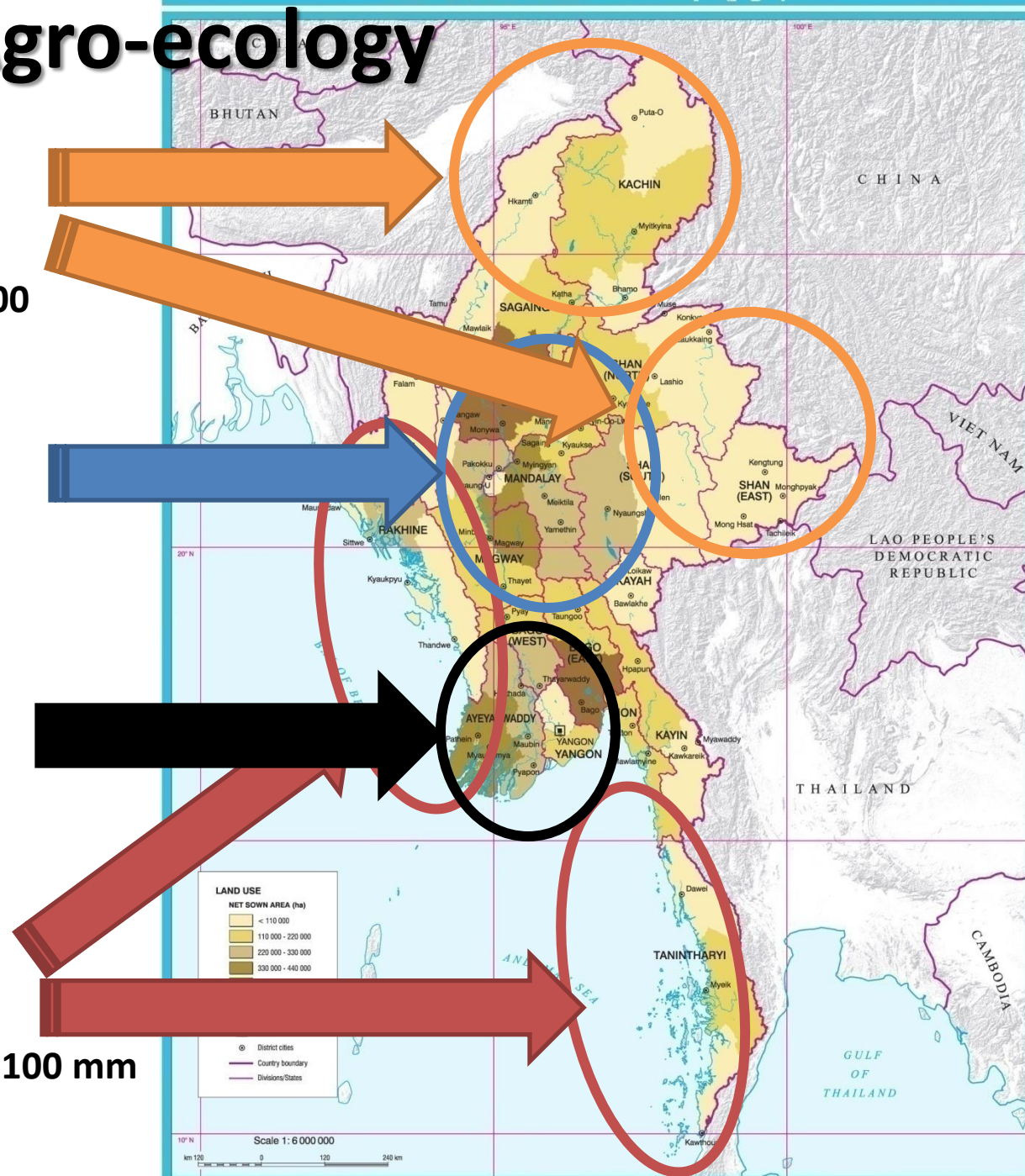
## Costal Area

Semi-tropics to tropics

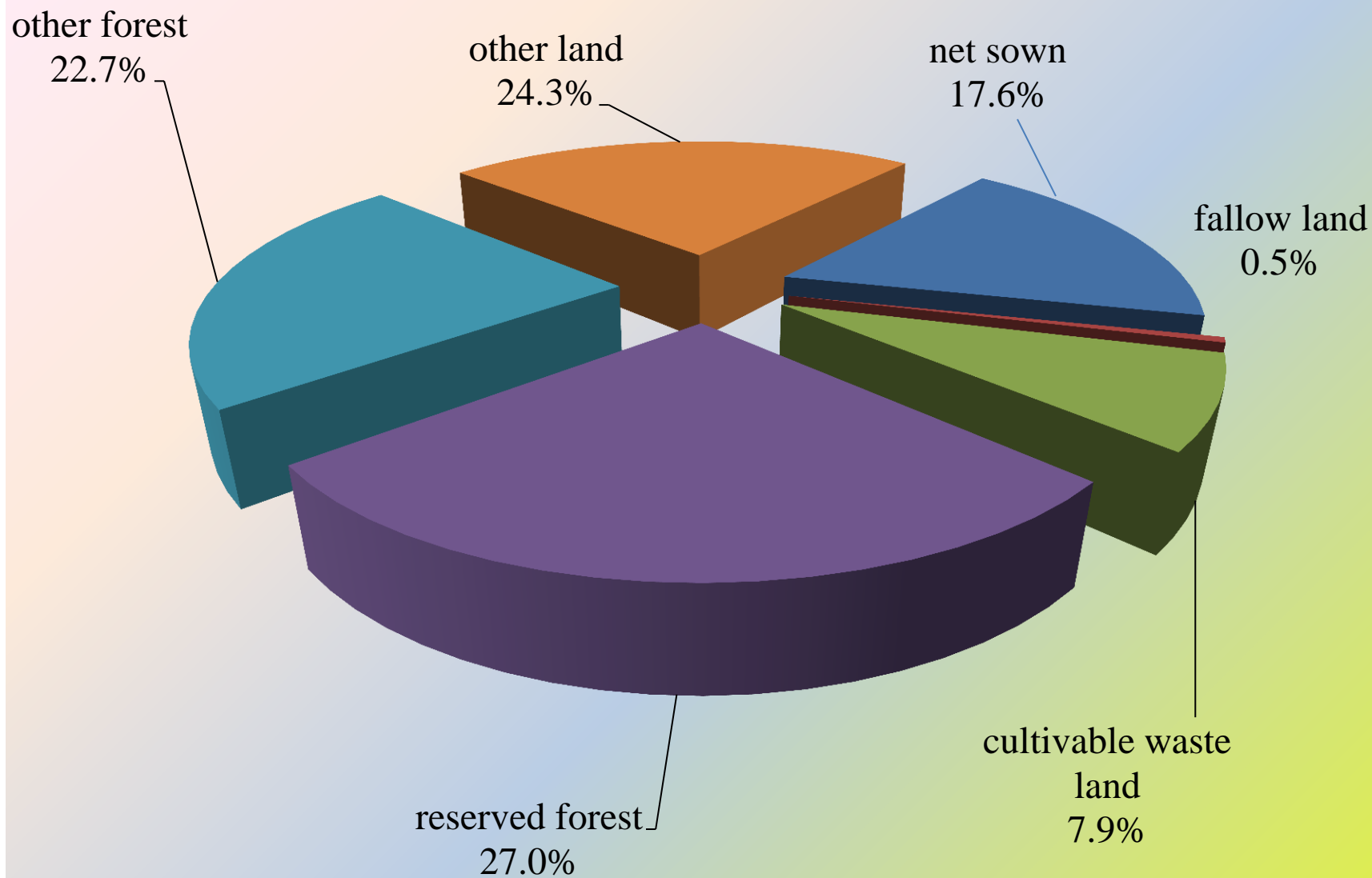
Temp: min 21.2 °C max 32.1 °C

Annual Rainfall: Rakhine: 2400 -3100 mm

Tanintharyi: 4000 – 4900 mm



## Land Utilization in 2011-12



## Potential of Water Resources

Sr No	Name of Principal River Basin	Catchments Area for each stretch (000' sq- km)	Average Esti. Annual Surface Water (km <sup>3</sup> )	Estimated Groundwa ter Potential (km <sup>3</sup> )
1	Chindwin River	115.30	227.920	57.578
2	Upper Ayeyarwady River (up to its confluence with )	193.30	141.293	92.599
3	Lower Ayeyarwady River (from confluence with to its mouth)	95.60	85.800	153.249
4	Sittoung River	48.10	81.148	28.402
5	Rivers in Rakhine State	58.30	139.245	41.774
6	Rivers in Tanintharyi Division	40.60	130.927	39.278
7	Thanlwin River(from boundary to its mouth)	158.00	257.918	74.779
8	Mekong River (within territory)	28.60	17.634	7.054
<b>Total</b>		<b>737.80</b>	<b>1081.885</b>	<b>494.713</b>

# Characteristic Patterns of Agro-Industry in Myanmar

- Categories of agro-industries with respect to market and resource bases

Orientation to	Resource -based	Non –resource based
Export –oriented	Processed and semi-processed sea foods, Natural rubber based factories, sugar and rice under exportable surplus quota, pulses – splitting and grading enterprises,	-Nil
Domestic Market oriented	Cotton –based weaving factories, jute factories, food processing and canning factories, fruits and vegetables preservation, edible oil mills, animal feed industry	Some agro-chemical Co. Ltd. procures imported materials and prepare or reformulate for local market.
Agro-supportive industries	Neem pesticide plant, bio-fertilizers	Farm machinery and tools – local component is low in manufacturing

## Status of processing among agro- industries

Degree of processing	Agro-industries (inclusive of cottage scale)
Manual	Hand looms using short staple and long staple cotton based thread; dried fish and prawn, fruits and vegetables drying and preservation;
Manual - mechanical	Cotton ginning; weaving looms (particularly in Wuntwin, Meikhtila and Amarapura) for traditional longyis; rice threshers and farm tools; rice and bean noodles factories; bean splitting and grading plants;
Mechanical - chemical	Sugar factories, jams and food preservatives, dairy industry, upgraded edible oil mills; rubber latex processing factories; cotton based textile factories; soft drink and beverage industries;
Chemical - biochemical	Alcohol distillation plants;

## Typical Food Processing Products in Region / State.

Sr.	Region/State	Kind of Food
1	Kachin	Chin-Saw-Ga fruit preserving (Cyndomia Cathayensis), Soybean based soft tofu (Sitophu)
2	Shan	Rice cracker, Sugar coated soybean, Potato chip, Tomato preserve, Green tea/ Black tea, Pineapple cracker
3	Chin	Elephant foot yan, Ginger, Grape wine, Mythan-dried and shredded meat
4	Mon	Durin jam, Pineapple jam
5	Bago	Tamarind, Pumpkin cracker, Mango leather, Rice cracker, Sticky rice-taro ball, Shushi
6	Mandalay	Soybean milk, Milk toffee, Mango juice, Papaya cracker
7	Ayeyarwaddy Delta	Banana chips, Dried-fried banana, Banana toffee, Fermented fish Sweetened fermented fish, Dried shredded fish, Mango leather
8	Dry Zone	Toddy palm jaggery, Jobbar palm coated jaggery, Steamed bottled palm juice, Sesame snack, Peanut snack, Tamarind toffee/sugar coated

**Distribution of food processing/ agro-based industry in the whole manufacturing sector (based on registered entries), 2012**

Sr.	Processing	Number with respect to size			Total	% of
		Large	Medium	Small	Number	All
1	Rice milling	599	1767	14828	17194	39.79
2	Edible oil extraction	282	833	2202	3317	7.68
3	Grain/Chilly pounding	49	197	880	1126	2.61
4	Assorted foods	131	255	332	718	1.66
5	Pulses & Bean milling	40	144	410	594	1.37
6	Cane jaggery processing			350	350	0.81
7	Sugar processing	84	75	86	245	0.57
8	Wheat/maize grinding	50	69	106	225	0.52
9	Cassava grinding			150	150	0.35
10	JuJube berry grinding	8	30	72	110	0.25
11	Sorghum stalks/tobacco crushing	20	27	52	99	0.23
12	Fish paste and sauce	13	14	70	97	0.22
13	Vermicelli/noodle	27	35	33	95	0.22
14	Bean grading	64	16	8	88	0.2
	<b>Total Foods/Beverages</b>	2359	4088	21109	27556	63.77



# Small mills are largely utilized in rice industry



Village rice mills



တွေ့ဆုံမေးမြန်းပုံ



Pulses mill



Commercial rice mill

**17194 rice mills in 2012, and 14828 mills are small rice mills.**

# **Pulses & Bean Milling**

- **Degree of commodity processing is very low, generating few employment opportunities for the non-farm sector.**
- **Pulses and bean grinding accounts for only 1.7 % of total food and beverage industry.**
- **It implies that pulses and bean exports are largely in raw form without processing.**

## **Edible Oil Mills**

- **The number is about 1,938 oil mills, distributed in dry zone, delta, Shan (south) and Kachin .**
- **Electricity supply is needed to run the factories. So thus the mills are located mostly in urban areas.**
- **Moreover, the government allow to import cheap palm oil and allow export of groundnut and sesame seeds.**
- **Prices of oil cakes high for animal feeds**

## **Cotton-based SMEs Weaving Industry in Dry Zone**

- **They are largely home –based to medium –sized business with the amount of annual investment of one to five million kyats, and power usage of 25 to 50 HP. Their products fulfill the domestic need.**

### **Power Looms**

- **In Meikhtila, there are about 240 weaving enterprises.**
- **In Wuntwin township there are about 4,000 power looms operate mostly in home –based or in medium scale enterprises**
- **Meiktila and Wuntwin SMES always encounters power shortage and dwindling supply of raw materials**

## Power Loom at Meikhtila and Wontwin



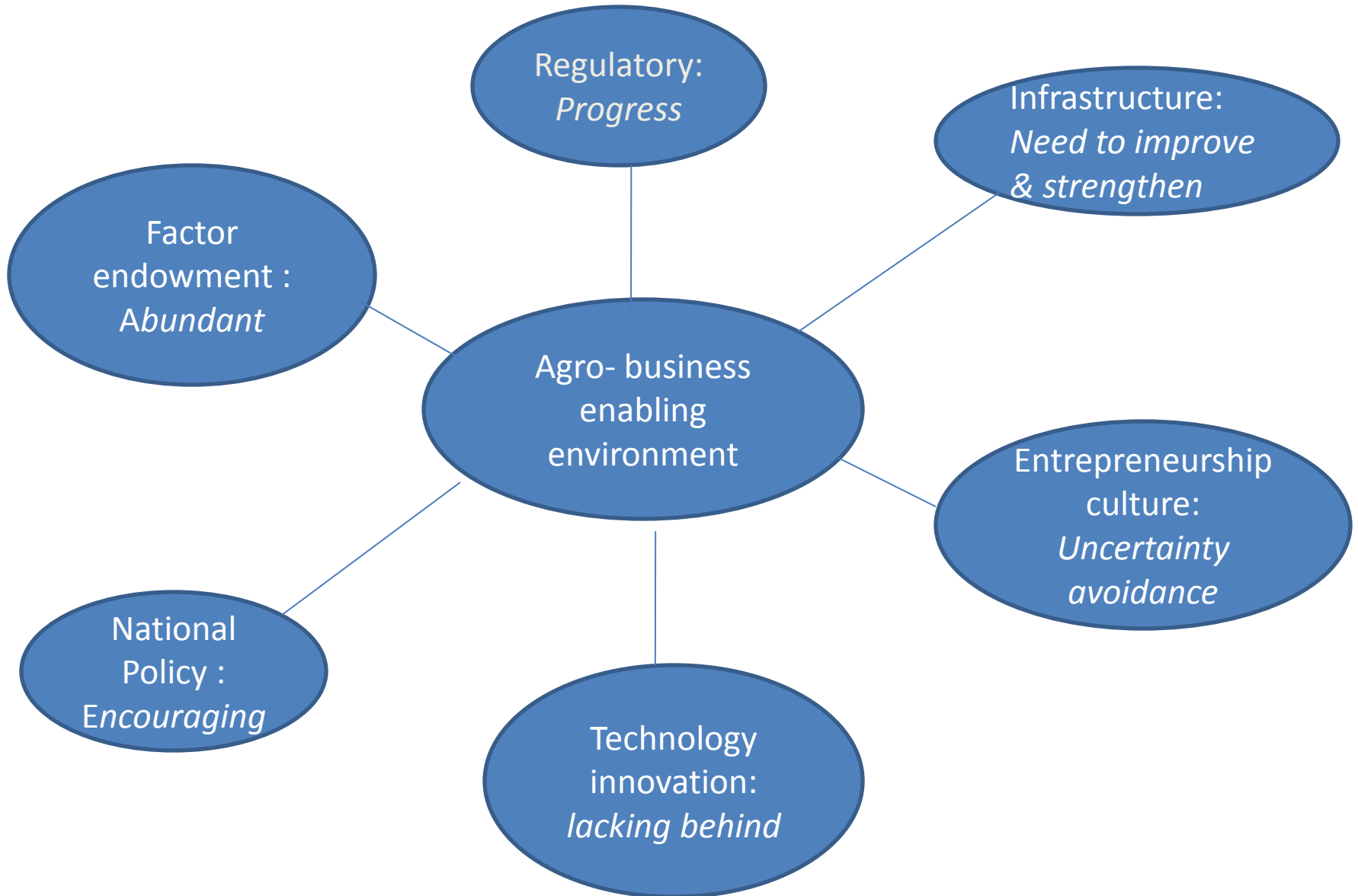
## **Wine Making in Hilly Region**

- **Pyinoolwin, mountain resort town located in East of Mandalay produces grapes wine, strawberry wine, etc. Pyinoolwin wine is already passing examination of Food and Drugs Administration (FDA) and sold out country wise.**
- **In Southern Shan State, grape culture and wine process are being significantly improved by the joint venturing with the German partner “ Myanmar Vine-yard Estate Company”.**
- **The cheap power sources will be required to develop rural industry and home –based food and wine processing.**

# Coffee & Tea Plantation to Processing

- **Tea plantation is traditionally well-established in northern Shan plateau. It is now extended to southern Shan and Chin Hills. Tea estates are found on the 3000 ft. elevation. Chin Hill area is potential for tea plantation but need to improve quality through processing.**
- **Expansion of coffee area has been driven by emerging competitive Coffee Mix companies in the country. Mix plantation of pepper & Robusta coffee (low land coffee) could be considered in potential area of Mon state, Bago region and Ayeyarwaddy delta.**

# Ago- Business Enabling Environment

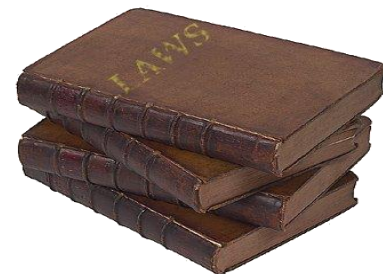




# Regulatory and Legal infrastructure (*Progress*)



- Pesticide Law, 1990
- Myanmar Agricultural and Rural Development Bank Law, 1990
- Plant Pest Quarantine Law, 1993
- Fertilizer Law, 2002
- Procedures Relating to Fertilizer Law, 2007
- Procedures Relating to The Pesticide Law, 2007
- Seed Law, 2011
- Labor Organization Law, 2011
- Micro Finance Law, 2011
- Farm Land Law, 2012
- Vacant Lands, Fallow Lands and Virgin Lands Management Law, 2012
- Environmental Conservation Law, 2012
- National Food Law, 1997



# **Soft Infrastructure**

*(To improve and strengthen)*

- **Establishment of SME Department under Ministry of Industry for facilitating process**
- **FDA for quality, standard and safety of food, following National Food Law, 1997**
- **Emerging private banks and floating exchange rate**
- **Establishment of SMEs Bank**
- **Stock and exchange market in future**

# **Main servicing agencies in export of agricultural products.**

- **Myanmar Inspection & Testing Services Ltd. (MITS)**
  - **Pre shipment quality, quantity and weight inspection**
  - **Agri- products inspection**
  - **Sampling for testing & fumigation, etc.**
- **Oversea Merchandise Inspection Co., Ltd. (OMIC)**
  - **Agri products inspection**
  - **Insurance and technical services**
  - **Laboratory testing & fumigation, etc.**
- **SGS (Myanmar) Ltd.**
  - **Agri products Inspection**
  - **System & Services Certification**
  - **Fumigation services and stock management, etc.**

# Laboratories and Testing Activities

Sr. No.	LABORATORIES	CERTIFICATE
1	Food and Drug Administration (FDA) (Ministry of Health)	Fit for Human Consumption
2	Plant Protection Lab: (MAS) (Ministry of Agriculture and Irrigation)	Free from Aflatoxin certificate, RAC certificate, Phytosanitary Certificate
3	Commodity Testing and Quality Management Branch, Dept of Trade Promotion (Ministry of Commerce)	Free from Aflatoxin, RAC Certificate, HCN certificate
4	Myanmar Science & Technology Research Department (MSTRD) (Ministry of Science & Technology)	Radiation Certificate
5	Central Lab: (MSTRD)	Chemical Properties Certificate
6	Plant Bio Technology Lab: (Ministry of Agriculture)	GMO Certificate
7	Co-operative Lab:(Ministry of Co-operative)	Chemical Properties Certificate
8	Central Research and Development Department:(Ministry of Industries)	Chemical Properties Certificate
9	Department of Fisheries Lab:(Ministry of Livestock Breeding and Fisheries)	Fit for Animal Consumption
10	Food Industries Development Supporting Lab:(FIDSL Myanmar Food Processors and Exporters Association),UMFCCI	Test Result on Foods

# Prospects for Investments in Selected Ago-Industries

## ❖ Agricultural Inputs

- ☕ Seed Industry
- ☕ Fertilizer Industry
- ☕ Pesticide Industry
- ☕ Farm Machinery Sale & Services

## ❖ Food Processing

- From raw pulses to exportable form
- From oilseeds to edible oil & candy
- From raw rubber to value added
- From agri-produce to animal feed
- From tropical fruits and vegetables to processed canning
- From raw coffee & tea to value added form

# Mango Chip



01/08/2007

# Dehydrated culinary crops



# Dehydrated Ginger





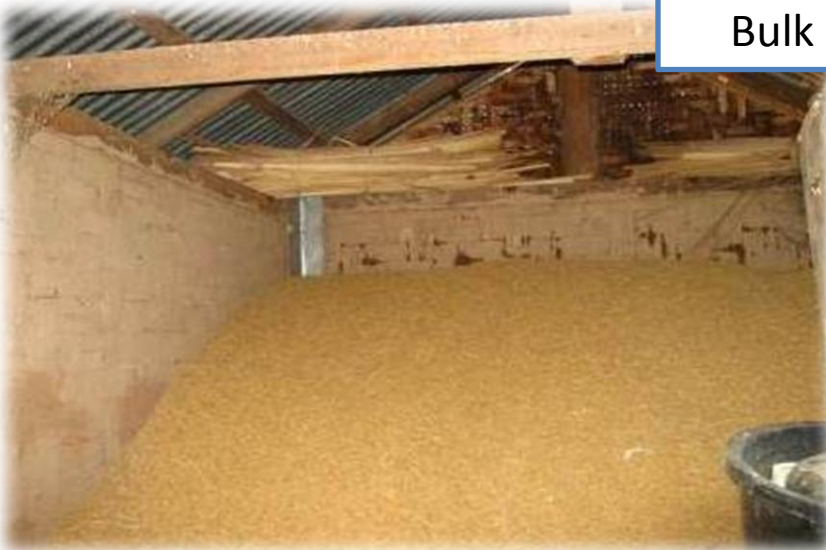
## Local vehicles are mostly used in field transport



**Traceability of products is difficult to fully access**

## There are wide variations in storage type

Bulk storage



Open bag storage



**No cool storage facilities on farm and market area**

# **Key Factors for success of downstream Agro-industry in Myanmar**

- **Enhance comparative and competitive advantages through demand driven production**
- **Transition from development of agricultural production to agribusiness development through harmoniously and simultaneously developing supply chain**
- **Identify weak links along the value chain**
- **Improving hard and soft infrastructure to reduce post-harvest loss and improve quality of products**
- **Improved technologies for value added products to improve standard and food safety**
- **Ensure markets access for value-added products**
- **Secure product quality, safety and standardization by strengthening laboratory facilities of existing testing services, FDA , MITS, etc.**
- **Market intelligence and information dissemination**
- **Expanding electric power to rural areas or generating renewable energy**