

**Part III – Country Papers**  
**16. MYANMAR**

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## 16. MYANMAR

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### INTRODUCTION

Myanmar is geographically located between 9°58' to 28°31' North and 92°9' to 101°10' East and situated in Southeast Asia, sharing borders with Thailand, Laos, China, India and Bangladesh. The total area of the country is approximately 676,578 km<sup>2</sup>, stretching about 2,090 km from north to south and 925 km from east to west at its widest points.

#### Topography

The western, northern and eastern parts of the country are mountainous regions with altitudes varying from 915 to 2,134 m. Myanmar is a forest-clad mountainous country with plateaus, valleys and plains. The general slope of the country is from north to south. Ayeyarwady, Chindwin, Sittaung and Thanlwin, the main rivers, flow in the same direction. There are narrow plains in Rakhine and Taninthayi coastal regions. Chin, Kachin and Shan states are mountainous regions. A plain makes up the central part.

#### Climate

Tropical and subtropical climates with three seasons; namely, rainy, dry-cold and hot season are found in Myanmar. The average annual rainfall varies over the country, ranging from 2,540 to 5,080 mm in the coastal and mountainous regions and 762-1,016 mm in the central part of Myanmar. In the Dry Zone of central plain, seasonal temperature varies in the magnitude of 40.6-43.3°C in hot season and 10-15.6°C in cold season. In the northern and eastern part of the country, the highest temperature can reach up to 29.4°C and the minimum temperature can drop as low as 7°C because of the higher altitude.

#### Population

Population of Myanmar is increasing with an annual growth rate of 1.84 percent, and estimated total for 2001 is approximately 50 million. Out of this total, about 75 percent live in the rural areas where agriculture is the main livelihood. Total labor force is estimated to be 17 million out of which 63 percent are engaged in agriculture sector. Table 1 shows population, area and density by states and divisions.

### PRESENT STATUS OF AGRICULTURE SECTOR

Myanmar, traditionally an agricultural country, is rich in land resources for agriculture. With different agro-climatic conditions, a large variety of crops can be grown not only for food but also for industrial raw materials. Although Myanmar has cultivable land areas of 17.7 million ha, only about half or 9.67 million ha are being utilized for agriculture. The remaining 8.03 million ha of cultivable land are classified as fallow and cultivable wasteland. The present status of land utilization in Myanmar is mentioned in Table 2.

Under the Land Nationalization Act 1953 and the Tenancy Act and Regulation 1963, the number of farms with large holding is substantially low. Table 3 shows the landholding area in each group.

Table 1. Population, Area and Density by State and Division, 1999

State/Division	Male (000)	Female (000)	Total (000)	Area (000 km <sup>2</sup> )	Density (person/km <sup>2</sup> )
Kachin	617	631	1,248	89,042	14
Kayah	132	127	259	11,732	22
Kayin	722	738	1,460	30,383	48
Chin	230	243	473	36,019	13
Mon	1,227	1,219	2,446	12,297	199
Rakhine	1,343	1,355	2,698	36,778	73
Shan	2,393	2,309	4,702	155,801	30
Yangon	2,719	2,751	5,470	10,171	538
Mandalay	3,180	3,262	6,442	37,023	174
Bago	2,469	2,461	4,930	39,404	125
Magway	2,192	2,272	4,464	44,821	100
Sagaing	2,586	2,694	5,280	94,625	56
Ayeyarwady	3,334	3,329	6,663	35,137	190
Taninthayi	648	650	1,298	43,345	30
<b>Total</b>	<b>23,792</b>	<b>24,041</b>	<b>47,833</b>	<b>676,578</b>	<b>71</b>

Source: Department of Labour/UN Population Fund (UNFPA), *Handbook on Human Resources Development Indicators, 2000*.

Table 2. Present Status of Land Utilization, 1999-2000

Type of Land	Area (million ha)	Percent
Net sown area of crop	9.67	14.3
Fallow land	0.78	1.2
Cultivable wasteland	7.25	10.7
Reserved forests	12.57	18.6
Other forests	20.24	29.9
Others	17.15	25.3
<b>Total</b>	<b>67.66</b>	<b>100.0</b>

Source: Soe Win Maung, "Overview of Agriculture Sector in Myanmar", paper presented at the National Seminar on the System of Food and Agriculture Statistics in Myanmar, 29-30 January 2000, Yangon.

Table 3. Size of Landholding, 1999/2000

Size of Holding (acre)	Number		Percentage	
	Peasant Families and Societies (000)	Area (000 ha)	Peasant Families and Societies	Area
Under 5	2,840	2,872	61.58	26.68
5-10	1,164	3,433	25.24	31.90
10-20	497	2,855	10.78	26.53
20-50	107	1,185	2.32	11.01
50-100	2	64	0.04	0.59
Over 100	2	354	0.04	3.29
<b>Total</b>	<b>4,612</b>	<b>10,763</b>	<b>100.00</b>	<b>100.00</b>

Source: Settlement and Land Records Department (SLRD).

Note: Area includes both agricultural land and fallow land.

Being an agricultural country, the national economy relies on the development of agriculture sector. It is clearly stated in four economic objectives of the country as "development of agriculture as the base and all-round development of other sectors of the economy as well". Reform measures in macro-economic

initiated since 1988-89 lead to market economic system comprising liberalization of trade and expansion of private sector role, upgrading existing infrastructures and encouraging foreign trade and investment, among others.

The Ministry of Agriculture and Irrigation (MOAI) has laid down the following agricultural policies conducive to the improvement of agriculture sector, aiming to uplift the national economy.

- a) Production of food crops and industrial crops according to the market demand;
- b) Permit commercially viable production of industrial and plantation crops;
- c) Allow private investors and farmers to expand cultivable wasteland for agricultural production;
- d) Encourage participation of private sector in the distribution of farm inputs; and
- e) Release unproductive agricultural land to other productive programs.

In 1997-98, total employment was estimated at 18.36 million, 11.51 million or 62.68 percent of which were engaged in agriculture sector representing the largest work force among the production sectors (Table 4).

The diverse agro-ecological conditions prevailing in the country have allowed Myanmar to grow over 60 different crop species of economic importance. These crops may be grouped into seven different categories (Table 5).

Table 4. Estimated Employment in Various Sectors, 1997-98

Sector	Number (000)	Ratio (percent)
Agriculture	11,507	62.68
Livestock and fishery	397	2.16
Forestry	189	1.03
Energy	26	0.14
Processing and manufacturing	1,666	9.07
Trade	1,781	9.70
Mining	121	0.66
Power	22	0.12
Construction	400	2.18
Transport and communication	495	2.70
Social services	597	3.25
Administration and other services	888	4.84
Workers	270	1.47
<b>Total</b>	<b>18,359</b>	<b>100.00</b>

Source: Department of Labour.

Table 5. Crop Groups and Their Sown Area, 1998-99

Crop Group	Major Crops	Sown Area (million ha)	Percent of Sown Area
Cereals	Rice, maize, wheat, sorghum	6.53	49.5
Oilseed crops	Sesame, groundnut, sunflower	2.02	15.3
Food legume	Different kinds of peas and beans	2.46	18.6
Industrial crops	Cotton, jute, sugarcane, rubber	0.75	5.7
Culinary/vegetable	Potato, onion, vegetable	0.34	2.6
Plantation crops	Coffee, tea, oil palm, fruit	0.43	3.3
Miscellaneous	Medicinal plant, non-edible plant	0.66	5.0
<b>Total</b>		<b>13.19</b>	<b>100.0</b>

Source: SLRD.

To be able to supply sufficient food for the growing population in the future and to promote agriculture sector, entrepreneurs are permitted to cultivate on cultivable wasteland, wetland and lowland. Because of the encouragement of the state, private entrepreneurs capable of making an investment are cultivating on these lands in some states and divisions. Table 6 shows land reclamation by the private entrepreneurs.

Table 6. Land Reclamation under the Management of Private Entrepreneurs

State/Division	Vacant/ Virgin Acreage	No.	Private Entrepreneurs (acre)	
			Allotted	Reclaimed
Ayeyarwady	503,053	29	240,366	117,035
Yangon	91,936	7	62,391	39,836
Bago	391,897	20	166,709	34,254
Magway	288,039	11	244,733	31,350
Taninthayi	904,725	16	516,561	27,159
Mandalay	528,291	2	1,608	415
Shan (south)	2,241,233	7	6,903	7,086
Kachin	4,990,132	3	31,800	1,100
Kayin	461,876	3	13,000	863
<b>Total</b>	<b>10,401,182</b>	<b>98</b>	<b>1,284,071</b>	<b>259,098</b>

Source: *The New Light of Myanmar*, Sunday, 24 June 2001.

The Agriculture Mechanization Department of the MOAI rendered assistance in site clearing, reclamation and land leveling works. Necessary technical assistance and support are given by the state to private investors in order to facilitate the implementation of field activities. Allocation of cultivable wasteland to investors are also being undertaken throughout the country wherever feasible.

### RURAL DEVELOPMENT PROGRAMS

Rural development programs are being carried out in rural areas aiming to lay a foundation for achieving an equitable and sustainable economic growth by focusing on developing the existing rural economy.

Specific programs and projects currently being implemented in Myanmar are as follow:

<u>Programs/Projects</u>	<u>Implementing Ministry/Agency</u>
a) The Development of Border Area and National Races	Ministry for Progress of Border Area and National Races and Development Affairs
b) National Program for Nine Districts Greening	Ministry of Forest
c) National Program for Development of Irrigation Rural Water Supply	MOAI
d) Model Mechanized Farming Village Project	MOAI
e) Contract Farming System in Livestock and Fisheries	Ministry of Livestock and Fisheries
f) Rural Credit Scheme	MOAI
g) Environmentally sustainable food security and micro-income opportunities in some deteriorating ecosystems	UNDP/FAO, MOAI, Ministry of Forestry, Ministry of Livestock and Fisheries, Ministry of Cooperatives
h) Capacity Building and Empowerment of Women Self-help Groups through Micro-credit and Social Mobilization	CIRDAP*/MOAI funded by the Government of Japan

Note: \* CIRDAP = Centre on Integrated Rural Development for Asia and the Pacific.

### Development of Border Areas and National Races

In order to improve the social and economic situation of the border area, the Ministry for Progress of Border Area and National Races and Development Affairs was established in 1992. Border Area and

National Races Law was enacted in 1993. So as to meet the specific objectives of the area, a master plan for developing border area and national races was drawn in 1994.

There are two main components in the plan; namely, infrastructure and socio-economic development, which may further be broken down as follows:

- a) Infrastructure development
  - \* Road and transportation
  - \* Energy
  - \* Housing
  - \* Communication
- b) Socio-economic development
  - \* Education
  - \* Health
  - \* Public relation
  - \* Trade and cooperation
  - \* Mineral exploration and exploitation
  - \* Eradication of poppy cultivation and income distribution
  - \* Agriculture
  - \* Livestock breeding
  - \* Forestry

Each of the sub-component has to be implemented by the concerned ministry in close coordination and cooperation of the Ministry for Progress of Border Areas and National Races and Development Affairs and with the participation of local populace.

### **Model Village Project**

In anticipation of population growth in next 20 years (that is to say in 2020), the Ministry for Progress of Border Area and National Races and Development Affairs has drawn up long-, medium- and short-term village development programs.

Each financial year is designated as model village year. Upholding the motto that villages must rapidly develop and become modernized so as to set up model villages.

Model village projects aim to set up four model villages in each township within the First Four-Year Plan. In order to achieve that objective, 1999-2000 financial year has been designated as a model village year.

The following activities are given priority to set up model villages:

1. Improvement of rural roads, bridges and drains
2. Rural water supply
3. Public health and sanitation
4. Establishment, maintenance and supervision of public markets, cattle markets and slaughterhouses
5. Establishment and maintenance of garden parks, playgrounds, public baths and recreation grounds
6. Management of pawn shops and ferry businesses
7. Demarcation and supervision of cemeteries.

These development activities create lots of non-farm employment opportunities such as construction works, commerce, services and transport in rural areas.

### **National Program: The Greening of Nine Districts**

The Dry Zone is a resource-poor area, where water is scarce, vegetation cover is thin and soil erosion is severe. The region is characterized by low annual rainfall that ranges between 20-40 inches with high variability and uneven distribution. The undulating land composes mainly of sandy loams with low fertility and is subject to severe erosion under rain and strong winds. Twenty-two townships in Mandalay Division, 18 townships each in Magway and Sagaing Divisions are classified as constituents of the Dry Zone.

The renewable national resources of the Dry Zone are being depleted more rapidly than nature can renew itself. Dryland environment (and its natural limiting factors) is not the only one to blame. Increasing population pressure with subsequent demands for agriculture, fuel wood and forestry products, leading to land clearing and repeated cropping on inherently poor soil, is another factor.

In order to improve the present environment degradation and socio-economic status of farmers and landless rural families, National Program for Nine Districts Greening was initiated in 1994-95, and aimed at establishing woodlands on degraded soils. Under the guidance of the Ministry of Forestry, the program

covers critical areas of nine districts of the Dry Zone. With the participation of rural communities the program is focusing on reforestation, distribution of seedlings, education and extension activities for protecting the environment and introduction of fuel efficient wood stoves.

In 1997, the Dry Zone Greening Department was formed, and the greening of the Dry Zone, originally demarcated in nine districts, was extended to 13, with the goal of covering/greening the areas, once dry and barren, with forests.

### National Program for Development of Irrigation Rural Water Supply

Water is crucial for improving crop performance and increasing cropping intensity as well as for implementation of regional greening and sanitation program. Therefore, various irrigation projects are being implemented to further increase the irrigated area. Table 7 shows an increase in irrigated area.

Apart from Irrigation Department which is responsible for irrigation projects, Water Resources Utilization Department was formed under the MOAI to focus its efforts on pumping water from the rivers and extracting underground water.

Table 7. Status of Progress in Irrigated Areas  
(Unit: Million ha)

Year	Irrigated Area	Increased Irrigated Area
1900	0.337	-
1948-	0.545	0.208
1988-	1.018	0.473
1999-	1.748	0.730

Source: MOAI, *Myanmar Agriculture in Brief*, March 2001.

### Model Mechanized Farming Village Project

Agricultural mechanization is the main element to increase cropping intensity and expand crop areas with the ultimate goal of escalating overall crop production. Thus 23 villages of different states and divisions, which are familiar with farm machineries and financially capable to purchase them, are selected to be established as model villages (Table 8).

Table 8. Selected Villages for the Establishment of Model Agricultural Mechanization Villages

State/Division	Township	Village	State/Division	Township	Village
Kachin	Monyin	Pinhae	Magwe	Magwe	Kanpya
Kayah	Logkkaw	Htayhanahlya		Aunglan	Nanzupin
Kayin	Pa-an	Zarthapyin		Aunglan	Kyiyartkone
Mon	Kyeikhto	Kawttin	Mandalay	Pyinmana	Alyinloe
Rakhine	Myauk-U	Nankyar		Sintakaing	Tawma
Shan	Kyinton	Yanlaw		Patheingyi	Kweyegone
Sagaing	Wetlet	Hladaw		Myingyan	Thabaung
Taninthayi	Htarwae	Maungma Shaung	Yangon	Taikgyi	Yindaikkwin
Bago	Kyaukdager	Khingyi		Hlegu	Wanetkone
	Taungoo	Ooyindaw		Thongwa	Thiktukan
	Okpo	Ayamyathaya	Ayeyarwady	Nyaungdon	Toochaung
				Hinthada	Duya

Source: MOAI, *Myanmar Agriculture in Brief*, 1998.

This program will also create job opportunity and generate more income for rural families, by having the mills, sale centers for fuel and agro-chemicals, machinery workshops and cottage industries. Rural youths are given training on how to operate and repair farm machinery.

### Contract Farming in Livestock and Fisheries

Livestock farming is a valuable source of income for rural people, as the demand for chicken and pork are on the rise. It will also serve as a source of their food. At present, livestock farming is being done only at smaller scale. In order to increase livestock production and generate more income for rural families, it is imperative that a contract farming system is introduced.

The state is giving high priority to provide adequate support for further development of fishery giving special attention to the production of low-cost freshwater fish as it contributes to food security for local people. With the assistance and encouragement of the state, freshwater fish ponds have increased. Necessary inputs, such as fingerlings, feed and technical services are made readily available by the state.

The state is giving encouragement and all-round assistance to the private sector for prawn breeding to fulfill domestic consumption demand as well as to export the surplus for foreign exchange. While the price of rice is US\$150/mt in the world market, the price of prawn even at the breeding pond is US\$5,000. Private entrepreneurs are therefore urged and encouraged to extend the prawn breeding works. The Ministry of Livestock Breeding and Fisheries is rendering assistance in allocating lands for prawn breeding, disseminating prawn-breeding techniques, and supplying prawn fries.

### **Myanmar Agriculture Development Bank**

The Myanmar Agriculture Development Bank (MADB), previously known as the Myanmar Agricultural and Rural Development Bank, is under the MOAI aiming to provide financial and banking services to the farming communities, state-owned organizations, livestock organizations, cooperatives, private entrepreneurs and village banks.

Loans are classified as:

- C annual crop loan;
- C short-term loans (2-4 years); and
- C long-term loans (five years and above) which are mainly for the purchase of farm implements, draught cattle, bullock carts, pump sets, power tillers, etc. as well as for integrated farming projects.

Starting from 1991-92 more loans were provided for the development of agriculture. The MADB has also launched a rural saving program since 1993 in order to encourage the farmers and rural population to deposit the surplus of their income at the bank. In return they will get reasonable interest from their savings. The rural savers are allowed to borrow farm development loans up to 4-5 times of their deposits at 15 percent interest rate. In order to facilitate the rural population to save their money, mobile services are provided by the MADB.

### **Environmentally Sustainable Food Security and Micro-income Opportunities Project**

Several projects are being implemented in different ecosystems which are fragile, vulnerable and already severely deteriorated, under the Human Development Initiative (HDI) program by the UNDP with the cooperation of concerned ministry of Union of Myanmar, such as MOAI, the Ministry of Livestock and Fisheries, and the Ministry of Cooperatives. The concept and strategy of these projects are to address poverty and environmental issues. The emphasis is on providing the poor segment of the population in those townships with environmentally sustainable income-earning opportunities in agriculture, forestry, fishery, aquaculture and livestock.

HDI program was started in 1994-95 as a pilot project which was terminated in 1996-97. The second phase of these projects lasted from 1996-97 to 1998-99. With a view to widen the scope and intensify the activities of these projects, they were further extended for another two years, until 2001.

These projects are located in three ecologically distinct regions; namely, Shan state, Dry Zone and Ayeyarwady delta and in certain townships as follows:

Region	Division/State	Township
Dry Zone	Magway	Kyaukpadaung, Magway
	Sagaing	Chaung Oo
Watershed	Shan	Nyaung Shwe, Ywangan
		Pindaya, Kalaw, Pinlaung
Delta mangrove	Ayeyarwady	Bogalay, Mawlamyinegyun
		Labutta

Objectives of these programs are:

- i) to improve living condition of rural community;
- ii) to establish income-generating activities of rural community;
- iii) to reduce environmental degradation and improve resource management;
- iv) to promote sustainable agricultural development for food security;
- v) to encourage locally managed self-sustaining micro-finance institutions to serve the needs of poor rural households; and
- vi) to upgrade productive skills through training and improved technology.

### **Capacity Building and Empowerment of Women Self-help Groups through Micro-credit and Social Mobilization**

The project was funded by the Japanese Government through CIRDAP, with the goals to promote women self-help groups under social mobilization process, to provide access to credit and encourage savings, to provide opportunities to generate additional income and to provide women groups access to basic social services. The program initiated in July 1999 lasted for three years. It was jointly implemented by the Department of Agricultural Planning (DAP) and CIRDAP.

### **PRESENT STATUS OF INDUSTRIES**

The existing industries in Myanmar can be divided into three sectors; namely, state-owned industries, cooperative industries and private industries (Table 9).

Table 9. State, Cooperative and Private-owned Industries, 1997-98

Type of Industry	State	Cooperative	Private	Total
Food and beverages	209	220	28,816	29,245
Clothing and apparel	33	183	3,733	3,949
Construction materials	126	79	3,535	3,740
Personal goods	14	23	1,358	1,395
Household goods	15	29	198	242
Printing and publishing	28	13	354	395
Industrial raw materials	821	7	1,803	2,631
Minerals and petroleum products	22	12	2,708	2,742
Agricultural equipment	3	-	83	86
Machinery and equipment	7	-	331	338
Transport vehicles	5	7	194	206
Workshops and dockyards	305	-	-	305
Miscellaneous	12	64	7,988	8,064
<b>Total</b>	<b>1,600</b>	<b>637</b>	<b>51,101</b>	<b>53,338</b>

Source: Cottage Industries Department (CID), Ministry of Cooperatives.

### **State-owned Industries**

State-owned industries are managed by different ministries according to their suitability.

Agro-based industries such as cotton gins, cotton seed oil mills, sugar mills, jute factories, jute carpet factories, palm oil and other vegetable oil mills, fruit and vegetable canning factories, coffee production and silk yarn factories are controlled by the MOAI. Rice mills and rice bran oil mills are under the control of the Ministry of Trade which is responsible for purchasing paddy, milling and exporting of rice.

Under the Ministry of Industry, there are six organizations; namely, Myanmar Textile Industries, Food Stuff Industries, Pharmaceutical Industries, Paper and Chemical Industries, Ceramic Industries, and General and Maintenance Industries. The Ministry of Industry is responsible for heavy industries.

The Ministry of Livestock and Fisheries controls milk plants, fish and meat canning factories and animal feed mills. The Ministry of Forestry is responsible for saw mills, plywood factories, wood furniture factories, manufacture of parquet and other wood-based industries.

The Ministry of Mines is concerned with the concentration of minerals and production of lead, zinc, silver, gold and tin metals. The No. 1 mining industry is in charge of mines which produce metallic lead and zinc concentrate as well as copper. The No. 2 mining industry controls tin smelting plants, and the No. 3 mining industry operates the iron and steel mills. Finally, the Ministry of Energy controls electricity generation plants, petroleum refineries, the fertilizer plants and methanol plants.

### **The Cooperative Sector**

The Ministry of Cooperatives looks after the affairs of all cooperative societies. Some of the industries run by the cooperatives are condensed milk factory, rice mills, edible oil mills, mechanical and engineering workshops, textile industry and plastics and chemicals production.

### **The Private Sector**

The private industries are scattered all over the country especially the rural handicraft industries. To supervise and regulate the growth of private industries, the Private Industrial Enterprise Law was enacted in 1990, followed by the Promotion of Cottage Industries Law in 1991. The latter act was meant only for the promotion of cottage industries which employ under three horsepower. The registration is voluntary unlike the larger private industries which come under the Private Industries Law.

The private industries which are required to register compulsorily under the Private Industries Law are classified into three groups as follows:

Size	Small	Medium	Large
Power installed (HP)	Up to 25	26-50	Over 50
Investment (million Kyat)	1	More than 1 up to 5	Over 5
Labor (number)	50	51-100	Over 100
Annual production value (million Kyat)	2.5	More than 2.5 up to 10	Over 10

The registered private industries can apply for the following privileges if they comply with the requirements under the law:

- (a) Land, power, raw materials, machinery, etc., from government departments concerned;
- (b) Tax and duties relief and exemption for a limited period;
- (c) Bank loans; and
- (d) Foreign experts and technicians assistance.

### **Development of Cottage Industries**

In order to promote cottage industries, CID is formed under the Ministry of Cooperatives with the objective of helping the private sector to register cottage industries of their own accord with the department.

#### **1. Formation of Regional Cottage Industries Associations**

CID helps entrepreneurs from industries associations with the aim of solving the problems in cottage industries.

#### **2. Helping the Cottage Industries to Produce Standard Quality Goods**

Research and Development Section of CID takes charge of assessing the quality and analyzing the compositions of food products from the hygienic point of view. Moreover, entrepreneurs of cottage industries are accorded the right to take part in occasionally-held exhibitions of goods from cottage industries. Through these exhibitions, the public learned about good-quality local products.

#### **3. Promoting Cottage Industries by Providing Technical Know-how**

Technical know-how is important for cottage industries promotion. It is impossible to disseminate ideas to an individual industry. Holding industrial shows is an effective strategy. For instance, in 1993 Packaging

Show was held in Yangon and helped entrepreneurs realize how to add value to their products by changing their packaging system. Technical seminars were also held to explore t issues concerning promotion activities that need to be tackled.

#### **4. *Preventing the Obsolescence of Traditional Handicrafts and Developing Them***

Multifarious items of traditional handicrafts can be found in Myanmar. CID is responsible for upgrading two craft fields which are weaving and lacquer ware. Under the guidance of CID there are 14 weaving schools in some states and divisions and one lacquer ware institute in Bagan.

#### **5. *Constraints on the Development of Cottage Industries***

There are inevitable constraints in the process of CID.

#### **6. *Electricity***

Electricity is vital for some industries. Myanmar's electrical enterprises have its own law, which does not allow just any one to use lighting source for industrial use. For industrial purpose, power meter is needed, and it is difficult to get permission. Most cottage industries use part of the space in the house for operation and have neither single phase nor three-phase power meter. Shortage of electricity is also one factor.

#### **7. *Raw Materials***

It is necessary to obtain adequate raw materials at reasonable price for cottage industries.

#### **8. *Finance***

State banks and private banks are financial sources exclusively for those who own valuable fixed assets, not for cottage industries which are not rich enough to present anything as collateral. CID cannot help these cottage industries access the banks.

### **POLICIES FOR PROMOTING RURAL NON-FARM EMPLOYMENT OPPORTUNITIES**

Policies are important for the development of rural non-farm activities. Some policies encourage rural entrepreneurs to promote small business in rural areas. Policies on liberalization of trade and expansion of private sector role upgrade the existing infrastructure and encourage entrepreneurs to invest in rural areas in many enterprises such as agro-based industry, cottage industry and tourism industry, etc.

Before 1988, procurement and distribution of supplies to the small-scale sector was done by the state. One of the agricultural policies encouraged the participation of private sector in the distribution of farm machinery and other farm inputs thus promoting non-farm activities such as production and trading of farm equipment, farm machinery, fertilizer, insecticide and water pump, etc.

Major policies for the promotion of rural non-farm employment opportunities include the following:

#### **Micro-credit and Social Mobilization Programs**

The majority of the rural population has to rely on informal source of credit for their survival. They need credit to conduct income-generating activities to earn enough money for food, shelter, clothing and to gain access to education and health facilities.

Micro-credit project helps rural people to seek new opportunities by borrowing without collateral and by paying back in small installments. By providing initial capital, the poor can seek income-earning activities that benefit their families and their communities as a whole. Female-headed households, landless laborers, subsistence farmers and fishermen, the aged and disabled who are the poorest of the poor are chosen and provided with micro-credit to seek income-generating activities.

Under the micro-credit program, 51 beneficiaries from Tuchaung village, Yangon Division and 64 in Yin-taik-kwin village, Ayeyarwady Division were given small loan for various income-generating activities. The amount of seed money disbursed to each beneficiary ranged from 10,000 kyats to 15,000 kyats with monthly interest rate of 2 percent, arrived at by the beneficiaries themselves. The period of loan is for one year. With the loan, borrowers invested in different kinds of income-generating activities including non-farm as well as farm such as trading, making hats, operating small shops, battery recharging services, tailoring, buying and selling pigs, buying draught cattle to keep for hiring purpose, small-scale livestock such as chicken and duck, and plantation of betel leaf and papaya. As part of the project, communities development programs such as construction of school buildings and ponds, provision of fly-proof latrine facilities, electrification, and construction of village roads were carried out in the project areas.

## **Infrastructure Development**

Infrastructure plays a vital role in the process of economic development as it facilitates trade and transportation, encourages entrepreneurs to set up new business, and supports industrial activities as well as tourism.

It is necessary to improve infrastructure especially transportation to help move local products such as preserved food, handicrafts, cane and bamboo furniture, etc. produced by non-farm workers. Improved infrastructure, availability of raw materials and low labor cost give an incentive to entrepreneurs to establish small industry in rural areas contributing to additional employment and earning opportunities for the rural people. Village roads should be upgraded for smooth and speedy delivery of rural goods to town. Priority is needed for projects to renovate rural roads which will lead to economic, education and health progress of the rural people. Transport plays a crucial role in developing a region.

At present special priority has been given to the development of the transport sector at national level in order to promote the trade and economy of the citizens, production sector and relations between different races. Strategic plans have been laid down and implemented to build a network of motor ways and railroads linking all parts of the nation from east to west and from north to south. More roads are under construction to be added to the network. River crossing bridges have been built wherever necessary. For these development projects, more labor are required thus providing employment and earning opportunities for local rural people. As a result, non-farm activities become increasingly concentrated in rural areas as infrastructure improves and markets grow.

## **Tourism Industry**

Improved infrastructure in rural areas promotes tourism. Myanmar is rich in natural resources. Some parts of the country offer pleasant and interesting places worth visiting. Tourism industry can be promoted in areas where there are pleasant, clean and pristine beaches and resorts, and where ancient pagodas, religious buildings and beautiful surroundings can be found.

Tourists spend their vacation in different ways. Some prefer activities such as jungle trekking, bird watching, scuba diving and cultural tours which can be done mostly in rural areas. Some tourists prefer to visit natural areas: eco-tourism. As a result, there is a need for proper arrangement to handle such type of tourist activity. Improving infrastructure especially roads and buildings in some coastal and mountainous regions, and some historical places, tourism industry will thrive benefitting local rural people. Tourism brings about income/employment. Economic returns aside, the development activities also have an impact on social and cultural environment in the areas where tourism is promoted. When tourism thrives, service jobs such as guide for jungle trekking and bird watching, bellboy, receptionist and watchman, etc. are available. Apart from this, restaurants, souvenir shops, snack shops and shops for renting things such as bicycle, shops for natural local products, etc. can be opened and rural people will benefit from non-farm employment in these rural areas.

## **Market Accessibility and Market Information**

Infrastructure improvements in rural areas and towns increasingly enable local small-scale enterprises to compete successfully with others. Market is important for selling products from rural areas so establishment and maintenance of public markets are needed. Most of the rural villages are located in remote areas and far from markets causing difficulties in distribution and transportation. By providing market accessibility, non-farm products such as pottery products, preserved food, cane and bamboo furniture, brooms and mats, etc. as well as farm products can be sold easily. Market accessibility persuades rural people to produce more products. Market information is also important to rural people. It helps them make well-informed decisions regarding where, when and at what price to sell their products and enables them to better plan their production in accordance with market demand.

## **SOCIO-ECONOMIC DEVELOPMENT AND HUMAN RESOURCE DEVELOPMENT**

The task to improve socio-economic life includes education, public health, clean surroundings, secure transport business and recreation. Everyone should have access to basic education, primary healthcare and other essential services. Without such access, the poor and their children will have little opportunity to

improve their economic status or even to participate fully in the society. There is a need to increase the level of necessary knowledge and skills, so individuals are able to improve their quality of life.

To enhance the capacity of human resources in rural area, new assets and employment opportunities are needed. Conducting training program on some of the following areas will create an increase in non-farm employment opportunities which helps rural people earn extra income.

The training subjects include:

- 1) food preservation;
- 2) handicrafts making;
- 3) tailoring and knitting;
- 4) mushroom cultivation; and
- 5) beekeeping.

In addition, to keep landless and near landless people from poverty, useful information on new employment opportunities are provided.

For the villagers who are not involved in farm activities and plan to find work in urban area, they should be made aware of and provided technical information on the production of goods using available local raw materials, for example, information on making paper from straw, making charcoal from rice hull, etc. Be certain that raw materials are readily available before promoting a new enterprise. The use of raw materials from forest for making finished goods can cause serious damage to and depletion of forests. This issue should be considered for the sustainable global environment. It is necessary to encourage rural people to replace the plants for the prevention of forest loss (reforestation) after being used as raw materials.

### **1. *Food Preservation***

Some perishable farm products have to be sold shortly after harvest. If there are plenty of fruits, and market accessibility are not available, food preservation is needed before the products are shipped to the markets in order to prevent it from perishing. By conducting one- or two-day training on the preservation of food in remote area where transportation and market accessibility is difficult, the cause of perishable crops can be reduced. In addition, food preservation helps rural people earn extra income.

Preservation of food is one of the types of non-farm employment activities in rural areas. Some fruits such as tomato, pineapple, lemon, banana, strawberry, pear, etc. can be made into fruit jam, fruit juice and dried preserved food. For example, villagers grow banana and mango trees in their compound for home consumption. Banana can be dried and preserved with little or no extra cost where as pickling mango requires cash to purchase ingredients. Usually, preservation of food is a seasonal activity which can be done only when the fruits are in season. Thus this kind of non-farm employment will generate income for only a short period of time.

### **2. *Handicrafts Making***

Handicrafts can be made from local natural resources such as cane, bamboo, sea shells, coconut husks and leaves. Some rural people have latent skills to make handicrafts. Handicrafts making also creates income for rural people. This type of non-farm activity will be more profitable if it is conducted in the areas where tourism is promoted.

### **3. *Tailoring, Knitting and Weaving***

This activity presents income opportunity especially for women/housewives who are not involved in farm activities. Some of them sew and weave for family members in their spare time to save money.

### **4. *Mushroom Cultivation***

Mushroom cultivation can be done in a small area and generate income within two weeks. At the harvest time of rice, there is plenty of straw which is a basic need for mushroom cultivation. Rural people who are not engaged in farm activities should be encouraged to cultivate mushroom, and provided with information, technology and other necessary requirements.

### **5. *Beekeeping***

Beekeeping can be assumed one of the kinds of non-farm employment for it does not require a large piece of land. It can be done without much effort except for the time involved in processing honey. Beehives can be kept near the farm in the blooming season of crops such as sunflower, sesame, cotton, peas and beans,

maize and fruit trees such as lichee, plum, orange, lime, peas and apple. At the end of the flowering season, the nectar becomes scarce so it is necessary to remove beehives to a place where there is plenty of nectar.

Rural people will have extra income by selling products from beekeeping such as honey, bee wax and pollen.

To promote beekeeping, Bee Keeping Department, under the Ministry of Livestock and Fisheries, provides materials and technical know-how as follows:

- i) Beehives with other necessary materials as well as a queen and a swarm of worker bees (about 3,000-6,000);
- ii) Conduct training on beekeeping;
- iii) Assist on how to handle beehives (to avoid being stung);
- iv) Help rural people who are willing to do beekeeping obtain credit from state and division; and
- v) Buy back the products with suitable fix prices.

Although the government has been promoting beekeeping, few people are interested in this activity because plenty of natural honey can be obtained from the forest and the lack of knowledge on beekeeping. Patience and the know-how of handling bees are needed. It is necessary to encourage rural people such as resource-poor farmers, landless farmers and women to get involved in this activity by means of mass media. The greatest value of the beekeeping industry is concerned with the honeybees' activities which aid the pollination of agricultural crops.