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Burma

Forest Products

Burma Forest Situation

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Prepared by:
Maurice W. House
U.S. Embassy, Bangkok
Drafted by:
Daphne Khin Swe Swe Aye

Report Highlights:
A review of Burma's forest resources, forest policies, and forest products situation.

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EXECUTIVE SUMMARY

Burma remains more than 50 percent forested and has sizeable stands of commercial hardwoods due to a sound policy of sustainable forest management that has been in place since British times. While commercial extraction of tropical hardwoods is controlled under Forest Department regulations and monitoring, population growth and the resulting demand for fuelwood and agricultural land is putting pressure on both the hardwood and other forested areas. Illegal logging of hardwoods has and continues to be a problem in border areas, but the largest threat to Burma's forest resources is encroachment by villagers seeking wood for fuel and land for crops.
Accurate and reliable statistics on forest area resources, production, consumption, and trade are somewhat difficult to obtain given the extent of illicit trade and insufficient government resources to adequately monitor the sector.

Nevertheless, post forecasts that annual production (based on Burma's fiscal year of April/March) of teak logs in 1999/2000 will continue to be around 800,000 cubic meters. Production of other hardwood logs will be approximately 1.95 million cubic meters. Lumber output over the same period will be about 120,00 cubic meters of teak and 500,000 cubic meters of other hardwoods. Burma's export trade is dominated by logs. Exports of teak logs in calendar year 1999 will likely be similar to 1998, or about 240,000 cubic meters, while exports of other hardwood logs will likely be between 375,000 and 400,000 cubic meters. Production of lumber and other value-added products for domestic use or for export is hampered by the low level of the local processing sector.

Value figures are presented in kyat (Burma's currency) and converted to dollars at the official exchange rate of 6 kyat to the dollar. In fact, Burma's strict currency controls and use of a dual exchange rate system has led to an unofficial rate of 250-300 kyat to the dollar.

The forestry sector is a good illustration of the constraints, both economic and policy, that Burma faces. Articulate and knowledgeable bureaucrats know what their problems are and have good ideas for resolving them. However, lack of resources, contradictory policies and programs between Ministries, and irresistible economic incentives often prevent these ideas from being implemented. The latter factor is a considerable problem for the forestry sector. Commercial extraction of tropical hardwoods, both officially and outside the system, is extremely profitable and an important earner of foreign exchange for the cash-strapped government. It is unlikely that the existing regulations, sound as they might be, can be completely effective in curbing illicit extraction. At the village level, the short-term economic benefits of gathering fuelwood or clearing land for crops simply overrule the longer-term benefits of reforestation or other environment-friendly land management techniques.

Review of Forest Resources

Area Forested/Location

Burma is a timber surplus country surrounded by timber-deficit countries, such as Thailand, People's Republic of China, India, and Bangladesh. About 388,201 square kilometer is covered by forests out of a total land area of 676,577 square kilometers. As a result of diverse climatic conditions, the forest flora of Burma ranges from sub alpine forests in the north through thorn forests in Central Burma to tropical rain forests in the south.

Mixed deciduous forest is the most important type of commercial forest because Teak is the principal species. The main commercial non-teak hard woods are Gurjun (Dipterocarp us sp.), Taungthayet (Sinfonia) floribunda),Padauk (Pterocarpus sp.), Tamalan (Dalbergia sp.), Thanwin (Millettia pendula), Hnaw (Andina cordifolia), Sagawa (Michelia champaca), Taukkyan (Terminaliatomentosa), Yon (Anogeissus acuminata) and Pyinkado (Xylia dolabriformis).

Forest Cover Change

An assessment of the change in forest cover conducted in 1990 revealed that the actual forested area had decreased at an average annual rate of 220,000 hectare during a period of 14 years from 1975 to 1989. Shifting cultivation, agricultural encroachment and illicit cutting had primarily been responsible for the deforestation. Post speculates that the rate of forest cover decline accelerated after 1990 since some of the forest area has been taken up by the Ministry of Agriculture to increase the production of export potential crops such as rice and sugarcane. In addition, it is widely believed that logging in th e border areas has been on the increase since the early 1990's.

Forest Resources Policies

Forest resources policies are under the Ministry of Forestry, which is organized along the following four departments:

(1) The Forest Department (FD): responsible for the protection, conservation and sustainable management of the forests resources;

(2) Myanma Timber Enterprise (MTE): responsible for timber harvesting, milling, downstream processing and marketing of forest products;

(3) Dry Zone Greening Department (DZGD): responsible for reforestation of degraded forest lands and restoration of the environment in the dry zone of Central Burma; and,

(4) The Planning and Statistics Department (PSD): responsible for coordinating and facilitating the task of FD, MTE and DZGD following the directives of the Ministry of Forestry, and acts as a forum on policy issues in forestry.

Forest Policy

Burma's forest policy recognizes the basic principles of forest conservation and complies with other international forestry obligations. Burma's Forest Policy was adopted in 1995 with a Policy Statement issued in February 1996. The Policy statement formulates the commitment and intent to ensure sustainable development of forest resources while conserving wildlife and wild plants, and enhancing the ways of living of indigenous people.

Forest Legislation.

The Forest Law (1992), consistent with the objectives of the Forest Policy, highlights environmental and bio diversity conservation and the extended set-up of Permanent Forest Estates (PFEs) and Protected Areas System (PAS). Above all, the Forest Law provides opportunities for the promotion of private sector involvement in timber trade, and decentralizes management responsibilities. It encourages a community participatory approach in managing forest resources, particularly to satisfy the basic needs of the rural people. It demonstrates a shift from the concept of revenue generation and restriction to motivation and share of management responsibilities with the people. In addition, there is separate legislation for wild life protection.

Legal Classification of Forests

Legally gazetted Forest Reserves constituted under section 4 of the Forest Act cover 10,401,000 hectares, or 15.40 percent of the total land area. There are all together 760 reserves in 14 States and Divisions. Protected Public Forests cover an area of 166,000 hectares or 0.25 percent of the land area, while Protected Area cover 1,368,000 hectares or 2.02 percent of the total land area. Apart from that, there are 23 wildlife sanctuaries and 5 National parks constituting about 2.2 percent of the total land area.

Forest land is classified as Commercial Reserves, Local Supply Reserves, Protected Areas System and Public Forest-lands.

<u>Commercial Reserves</u> are managed for the production of teak and other hardwoods for commercial use and export. The reserves are again classified for teak production and for timbers other than teak.

<u>Local Supply Reserves</u> are forest areas in close proximity to villages managed for the supply of minor forest produce such as house posts, poles, bamboos, firewood, and roofing materials.

<u>The Protected Areas</u> are National parks, Wildlife parks, and Sanctuaries, and climatic reserves for protection against erosion and land slides in precipitous mountain regions, and other similar areas.

<u>Public Forest-lands</u> are lands at the disposal of the State other than the reserved forest. They are the sources of supply of minor forest produce other than restricted reserved trees, that are legally granted by right.

Forest Plantation System

Burma's Forest Plantation System can be classified into four major types namely Commercial Plantation, Industrial Plantation, Firewood Plantation and Watershed Plantation.

-Commercial Plantation

In order to supplement timber products from natural forests and to assure sustained supply of commercial timber for export and local use on a long term basis, commercial plantations with high value species like Teak, Padauk and Pyinkado are established every year. It also aims to transform low-value, degraded natural forest areas into high-value forest plantations. It is estimated that with the present rate of planting every year, the annual allowable cut of Teak may double when the recent Teak plantations become fully grown-up and mature.

-Industrial Plantation

Selected fast-growing species like Eucalyptus camaldulensis and E.grandis are established in the vicinity of a specific industry to assure the supply of raw materials to the industry with less reliance on the natural forest and to reduce transportation cost. Bamboo and Eucalyptus woods from plantations are mixed at a specific ratio for pulp to be used in paper mills.

-Firewood Plantation

Rural people depend mostly on the neighboring natural forests and the trees growing at the vicinity of the villages and farmlands. Along with the population explosion, the demand for firewood and charcoal has increased. In order to keep the local reserve as a buffer zone and to manage the valuable high forests for timber production on a sustained yield basis, firewood plantation are established in allocated areas. Millions of tree seedlings and selected species are raised yearly in the forest nurseries set up by the Forest Department all over the country and are distributed at the beginning of the rainy season to the villagers to plant in the allocated areas.

-Watershed Plantation

In line with the increased construction of dams and reservoirs for increased production of agricultural crops, watershed management became vital to reduce siltation and sedimentation. Watershed plantations are established by Forest Department personnel in cooperation and collaboration with the personnel of the Irrigation Department and Myanma Agricultural Service.

Forest Plantation by Type up to 1997

Type	Area (Hectares)	Percent
Commercial	336,734	55
Village Wood Lot	176,961	29
Industrial Use	47,138	7
Watershed	54,541	9
Total	615,374	100

Forest Plantation by Species up to 1997

Species	Area (Hectares)
Teak	252,019
Pyinkado	49,912
Padauk	14,750
Pine	13,832
Eucalyptus	60,946
Others	223,915
Total	615,374

Forest Resources Management

Myanmar Selection System (MSS)

The Forest Resources Management system in Burma was started by the British in 1856. It is an exploitation-cum-cultural system known as Myanmar Selection System (MSS).

The MSS adopts a felling cycle of 30 years, prescribes exploitable sizes of trees, girdling of teak, selection marking of other hardwoods, felling of less valuable trees interfering with the growth of teak, thinning of congested teak stands, enumeration of future trees, to fixed sizes, and fixing of annual allowable cuts (AACs) for teak and other hardwoods. Simple coppice or coppice with standards systems are applied in the Local Supply forest reserves. Teak is either girdled or green felled depending on the market. According to the Forest Department, the AAC for teak has been fixed at 609,500 cubic meters since 1971.

Non-teak hard wood are felled and extracted within the year. Extraction of timber is thus carried out on the strength of the AAC. The AAC is usually fixed for each felling series based on its growing stock. According to the Forest Department, the AAC for other hardwoods is 2.4 million cubic meters

The selection cut is not only determined by the AAC in tree number but also by sizes that vary with the species. With teak, the sizes are fixed generally at 7'6" measured at 4'6" from the ground for good teak forests and 6'6" for poorer types of forests. There are areas where exploitable size is fixed at 5'0' but only in a minority of cases depending on the quality of the forests.

Teak is generally girdled and then felled 3 years later. All other hardwoods are extracted without girdling.

Prior to extraction of logs from the forest, the extraction department of the Myanma Timber Enterprise and the Forest Department meet at least six months ahead of the production year and draw up a working plan. This meeting is the finalization of the forest areas and compartments from where the trees are to be felled.

Marked trees are felled and logged, usually at the beginning of June to October and floated down the main river depots. Deliveries of teak to Rangoon are between November to February by the Irrawaddy river. Since non-teak hardwoods do not float, they are trucked direct to sawmills, or for long hauls, to main road heads and rail heads as transit to points prior to further transport to their final destination.

After the trees have been felled, the branches (tops and lops) are removed and they are crosscut (logged) into various lengths. For non-teak hardwoods, the usual length is 18 feet, unless there is a special requirement for a specific use. For teak, the logs are crosscut to the largest size possible that would produce the highest quality, restricted only by local conditions, large buttresses and deviation from straightness of the tree.

Forest Products/Wood Products Sector

Myanma Timber Enterprise has the monopoly to undertake commercial exploitation of teakwood from extraction to processing and marketing in all forms. For non-teak woods, established private timber businessmen are granted a license to extract under contract. In the milling and processing of hardwoods, local sawmills are issued permits for operating the mills on yearly basis.

Non-teak hardwood are produced both by the State and private sector, with the latter having the bigger share. The private sector is not allowed to handle teak sales either locally under export. Nevertheless, they are allowed to export non-teak hardwood logs, lumber, and finished products.

Myanma Timber Enterprise has 83 saw mills for domestic distribution of timber and 8 saw mills, 5 plywood factories and 6 furniture and moulding factories for export. Teak sawmills and downstream industries consume around 200,000 cubic meters of logs and about 240,000 to 330,000 cubic meters are exported in log form. The total capacity of the teak mills is over 200,000 cubic meters a year. However due to high log prices prevailing in the international market, priority is given to export of logs and thus only about 50 percent of the milling capacity is supplied for breakdown into lumber and downstream products.

Higher quality logs are exported and lower quality logs are transferred to the sawmills. Currently export by Myanma Timer Enterprise comprises 85 percent in log form, 12 percent as lumber and 3 percent as value added products. However, Myanma Timber Enterprise has been mandated to scale down log exports phase by phase and encourage private sector investment to promote down stream processing. A total of 10 joint ventures and wholly-owned investment companies are now involved in timber industry.

In the non-teak hardwood sector, about 900,000 cubic meters of logs are sawn for use as construction timber and railway sleepers. Approximately 197,000 cubic meters are used by downstream industries and about 220,000 cubic meters are exported as logs.

Marketing

Timber reigns as Burma’s number one export earner accounting for 25 percent of Burma total export value. Teak and hardwood logs are presently exported by monthly tender and also sold by contracts on certain occasions. Sawn timber and downstream products are mainly sold by sales contracts. Teak of high quality grade is usually sold through monthly tender, while third and fourth grades are sold through negotiations. In most sales, the foreign buyer usually makes a prepayment of 5 to 25 percent to the Myanma Timber Enterprise. The average total earnings fetched from the tender sales of teak and hard wood logs in FY 1998/99 (March-

April) was US$47.07 (million). The average price received for teak logs was $1,300 per ton and the average price received for hard wood logs was US$ 240 per ton. According to the official data from Myanma Timber Enterprise, 29,043 tons of teak logs, and 45,064 tons of hardwood logs were sold by tender sales in FY 1998/99.

Exports

Export of teak logs increased by over 10 percent during FY1997/98 from the previous year to 330,000 cubic meters. Export of hard wood logs decreased by over 8 percent during FY 1997/98 from the previous year to 227,000 cubic meters. Export of teak lumber increased by over 11 percent during FY 1997/98 from the previous year to 57,000 cubic meters. Export of other hard wood lumber increased by 43 percent from the previous year to 2,300 cubic meters.

According to Myanma Timber Enterprise data, in CY 1998, 240,000 cubic meters of teak logs with the value of US$ 94.65 (million) and 379,000 cubic meters of hardwood logs with the value of US$29.38 (million) were exported.

Myanma Timber Enterprise also produces the following for export:

-Teak squares, flitches, decks, planks boards and scantlings
-Teak furniture, door and window frames, PTG flooring, parquet blocks and lam parquet flooring strips, finger jointing strips, panels and mouldings.
-Teak veneer and one face plywood sheets, non-teak plywood sheets and marquetry
-Hardwood sawn timber, railway sleepers, flooring strips and blocks and mouldings.

Local Sales

In FY 1997/98 there was a decrease of 5 percent in the production of teak logs the previous year to 777,000 cubic meters. In noting discrepancy between this figure and the AAC of 609,500 cubic meters for teak, the Forest Department says this is at least partly explained by the inclusion of confiscated logs and carry-over stocks in the production figure. The difference also illustrates the problems of accurate data collection in an tightly controlled economy where the incentives to circumvent the system are compelling. Local sales of teak logs increased by 151 percent during FY 1997/98 from the previous year to 25,000 cubic meters. Teak lumber sales decreased by 6 percent during FY 1997/98 from the previous year to 340,000 cubic meters. The increased sales of teak logs can be attributed to the Myanma Timber Enterprise’s increased sales to the Joint Venture and Companies in which Myanma Timber Enterprise has investment shares. In these wood-based industries Myanma Timber Enterprise supplies the raw materials. The Joint Venture Companies can also lease private saw mills for milling.

The private sector and the Joint Venture Companies can also compete in the monthly tender sales of teak and hardwood logs whereas for the Joint Venture the sale prices for the logs are priced at six month average tender price.

Local sales of other hardwood logs increased by 150 percent during FY 1997/98 from the previous year to 568,000 cubic meters and other hardwood lumber increased by 5 percent during FY 1997/98 from the previous year to 452,000 cubic meters.

Post believes that the utilization of teak logs and lumber and other hardwood logs and lumber are much higher than official figures because the illicit trade of logs and lumber is a thriving, prosperous trade. Most of the domestic supply is provided from private saw mills and timber merchants who purchase illicit logs for milling, since Myanma Timber Enterprise has prohibited the local sale of teak lumber to private companies. The contraband products are mostly sold as lumber or value-added products such as furniture, window/door frames and doors. Most of the teak and Padauk that are smuggled out to Thai/ Chinese border areas are flooring strips, plank boards scantlings or lumber blocks. It is estimated that Forest Department's annual confiscation of teak and other hard wood logs and other products is about 10,000 cubic meters.

Trade Tables

Montly Export of Teak in 1998

Month	Quantity (‘000 Cubic Meter)	Value (Kyat in million)
January	10	26.4
February	11	29.5
March	7	16.7
April	62	114.0
May	12	26.2
June	33	77.9
July	11	36.6
August	11	38.3
September	15	52.4
October	14	37.2
November	15	35.3
December	38	77.4
Total	239	269.9 (US$94.65 million)

Monthly Exports of Other Hardwoods

Month	Quantity ('000 Cubic Meters)	Value (Kyat in million)
January	6	5.2
February	10	5.0
March	1	2.0
April	59	18.6
May	8	6.3
June	14	4.5
July	3	3.9
August	28	30.4
September	34	24.6
October	33	21.6
November	65	22.5
December	118	31.7
Total	379	176.3 (US$29.33 million)

Exports of Plywood and Veneer

The volume of exports was not available but the amount of export value in CY 1998 was Kyat 105.6 million (US$ 17.6 million). Exports are valued at the official exchange rate or 6 is equivalent to US$1.00

Cooperation with NGOs

Cooperation with Japanese NGOs

- Myanma -Yomiuri Afforestation Project
A joint effort between Forest Department and the Japanese Youth NGO, called Yomiuri Shimbun has been implemented since 1995-96 for four year period, during of which about 450 hectares of agro-forestry plantations are to be established in Nyaung-Oo township of the Central Dry Zone.

-Dahat-Si Greening Project
It was jointly implemented with Forest Department and Japan International Forestry Promotion and Cooperation Agency (JIFPRO) since 1997 for a period of two years, during which about 250 hectares of agro-forestry plantation will be established also in Nyanung- Oo township.

Environmentally sustainable projects

Three projects of environmentally sustainable food security
and micro-income opportunities in critical watersheds of Shan State of Eastern Myanmar, in delta area of Lower Myanmar, and in the dry zone of Central Myanmar are being implemented jointly by Forest Department and UNDP/FAO. Forest Department is also cooperating with International NGOs namely, Wildlife Conservation Society, Japan Wildlife Research Center, David Shepherd Conservation Foundation, Smithsonian Institute and Global Survival Network.

Production and Distribution of Hardwood Logs (cubic meter)

Teak

Particulars	1995/96	1996/97	1997/98
Production	892,965	818,939	777,392
Distribution	892,965	818,939	777,392
- Saw Mills	220,655	185,009	210,820
- Local Sales	7,775	10,112	25,400
- Export	247,172	301,114	330,200
- Other	120,932	74,648	21,336
- Stock	296,177	248,056	189,636

Other Hardwood

Production	1,641,611	1,855,997	1,896,164
Distribution	1,641,611	1,855,997	1,896,164
- Saw Mills	841,048	814,267	909,320
- Local Sales	173,907	227,330	568,325
- Export	172,480	246,828	227,330
- Other	262,987	376,383	
- Stock	191,189	191,189	191,189

Production and Distribution Of Lumber (Cubic meter)

Teak

Particulars	1995/96	1996/97	1997/98
Production	127,508	119,430	121,666
Distribution	127,508	119,430	121,666
- Saw Mills			
- Local Sales	31,120	36,396	34,239
- Export	50,820	51,130	56,540
- Other	9,680	1,019	
- Stock	35,888	30,886	30,886

Other Hardwood

Production	463,200	478,630	480,853
Distribution	463,200	478,630	480,853
- Saw Mills			
- Local Sales	411,067	430,440	452,387
- Export	1,234	1,591	2,273
- Other	4,458	20,405	2,273
- Stock	46,441	26,193	26,193