Preface

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Project Leader

The goal of the forest conservation project is to develop strategies appropriate for forest conservation and sustainable forest management. To achieve this goal, the project has set out to develop the following guidelines and recommendations to promote the participation of local people in forest management as a means of realizing both poverty alleviation and sustainable forest management :

(1) Village Action Guidelines (VAG) for villagers and other stakeholders at the village level.
(2) Local Policy Guidelines (LPG) for local (provincial or district) governments and other stakeholders at the local level.
(3) National Policy Recommendations (NPR) to ensure the effective application of international treaties on local participation in forest management at the national level. Local governments as well as stakeholders at the local and national level can make full use of these recommendations in order to promote the process of decentralization.

Research is carried out using two interrelated approaches, namely, a 'local approach' and an 'international approach', focusing on Indonesia, Laos and the Russian Far East as case studies. These two approaches are combined and synthesized in discussions with local governments, especially in the process of elaboration of Local Policy Guidelines (LPG).

Initially, our strategy was to develop a set of Local and National Guidelines and Policy Recommendations. However, due to the unexpectedly rapid progress of decentralization in case study countries, local governments are increasingly playing a more prominent role in the policy making process, and the focus has now shifted to the development of Local - as opposed to National - Policy Guidelines.

The outcome of this work will be published in local languages as well as in English in order to support and facilitate the participation of local people in forest management, for target countries/areas such as Indonesia, Laos and the Russian Far East.

The aim of the *Policy Trend Report* is to disseminate information on aspects of our research activities to all interested parties, as well as to provide a basis for discussion on the development of guidelines and recommendations. All papers included here - contributed by full-time staff, visiting researchers and research collaborators - have been reviewed by project members.

Any comments or suggestions on this report would be welcomed. Please contact the following person by post, facsimile or e-mail :

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Policy Trend Report 2002: 1-11

Trends in China's forest-related policies—from the perspective of the growing timber trade

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Abstract : This paper presents a short-term analysis of recent timber trends in China, focusing on timber markets and trade, and on forest-related policies. Firstly, trends in China's timber supply and demand are described highlighting the sharp increase in log imports, especially from Russia. Secondly, the key policy trends that have affected China's domestic timber market, including trade policy, forest conservation programmes, forest certification, land tenure and tax reforms, are outlined. Subsequently, the current state of Sino-Russia timber trade is surveyed, with special reference to the significant market growth in value-added '*made in China*' wood products based on imported Russian timber. Finally, the prospects of the timber market in China and the problems facing Sino-Russian trade are discussed.

Key words : China, forest policy trend, timber trade, timber consumption, Sino-Russia.

1 Introduction

With a population of around 1.3 billion people, the People's Republic of China is the world's most populous nation[1]. China continues to enjoy the rapid economic growth it has experienced since the middle of the 1980s, and in 2001 it became the world's leading timber importer in terms of volume. Sharp increases in China's timber demand stand to significantly impact on world timber markets, particularly when the additional timber is sourced from outside the country. It is possible that such massive additional timber imports by China could accelerate forest loss and degradation in the world's key forest areas, including Russia and the tropics. With regard to international trade relationships, vastly increased imports of coniferous logs from Russia, the mainstay of the Japanese plywood industry, have already begun to make a considerable mark on the timber industry in Japan.

The capacity of China's forests to supply logs has dropped sharply in recent years, due directly and indirectly to the over-harvesting of natural forests, frequently occurring forest fires, unsustainable forest management practices of the past, as well as recently launched forest conservation programmes (Yamane 2001). In order to overcome the timber deficit, the Chinese government has enthusiastically promoted various kinds of new forest-related countermeasures such as large-scale tree planting projects and tax and land-tenure reforms aimed at enhancing the potential for domestic timber production and the efficient use of timber resources. However, these policies have not resulted so far in a substantive achievement of their aims. Thus, the gap between domestic timber production and consumption has widened and timber imports have increased significantly.

The aim of this report is to discuss recent short-term timber trends in China through a review of the following three subject areas, based on information sourced from key documents, and from statistics and information collected in field surveys conducted in 2001 and 2002[2].

- Recent trends in China's timber supply and demand, highlighting the sharp increases in log imports.
- An outline of the key policy trends that have been affecting China's domestic timber market, such as trade policy, forest conservation programmes, forest certification, land tenure and tax reforms.
- The current state of Sino-Russia timber trade, including the significant development of an international market for Russian wood products '*made in China*'.

2 Summary of China's timber market and forest-related policies in 2001

China's timber market and trade in 2001 can be summarized as follows.

(a) The volume of imported logs and sawnwood continued to increase steadily. This was mainly due to the following factors :

- Additional growth in overall market demand for timber as a result of large-scale national infrastructure development projects and national efforts to stimulate domestic demand.
- The continuing decrease in the supply of large-diameter logs from domestic forests due to the im-

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[1] According to China's fifth national population census (November 2000), the total population is 1,265 billion (excluding Taiwan).

[2] Field surveys were carried out twice : 18–24 August 2002 in Beijing and Dalian, and 17-18 November 2002 in Beijing.

plementation of natural forest protection programmes (NFPPs).

- Burgeoning economic development, particularly along the Zhujiang and Yangtze River deltas (*i.e.* Guandong and Shanghai), stimulating further increases in the consumption of sawnwood imported primarily from tropical regions. The imported sawnwood has been used mainly for furniture manufacture in the Guangdong area, and for interior decoration in the Shanghai area.
- An increase in demand for imported tropical hardwoods for use mainly in plywood manufacture, to offset the shrinking domestic supply of veneer grade logs brought about by NFPP implementation.
- An increase in the export volume of plywood, despite a decrease in the import volume. In 2001, for the first time the export volume of plywood exceeded the import volume.

(b) Whilst there were no significant changes made directly to forest policies, their underlying principles were reinforced, and the official position with regard to forest conservation and sustainable forest management was enhanced through a number of related measures. Evidence of progress in these areas includes :

- Aggressive new fiscal policies, aimed at boosting the quantity and quality of housing, were introduced under the tenth five-year national plan, increasing timber demand for fittings and furniture.
- In addition to housing policies, large-scale national infrastructure development programmes, such as the Great Western Development project and the Beijing Olympics project, have been generating considerable increases in timber demand.
- Timber trade liberalization has progressed since China joined the World Trade Organization (WTO), with further tariff reductions on products such as plywood and veneer. In 2001, a new timber trade regulation on pest control was issued, though full implementation with regards to Russian logs was postponed for one year because of a lack of appropriate facilities both in Russia and China with which to implement adequate timber quarantine. After a year of negotiation, however, China and Russia have reached an agreement and commenced full implementation of the regulation, as described below in greater detail.
- Recently launched forest conservation programmes such as NFPP and the 'grain-for-green' or Land Conversion Programme (LCP)[3], have been gradually brought into effect with large capital investments both in 2001 and 2002. In early 2002, the government launched the plantation development programme, which through its integration with other existing forest conservation programmes (including NFPP and LCP), has established six major forest projects aimed at balancing the needs of environmental conservation with the growing demand for timber.

(c) Russian timber has dominated China's wood imports, accounting for 52 per cent of the total log imports in 2001. This figure is likely to have increased to 60 per cent in 2002. There have been no significant changes in the trends evident in the Sino-Russian timber trade, though the following features deserve mention :

- The main routes for timber import from Russia to China are still the inland border gateways such as Manzhouli, Erlianhot and Suifenhe. In 2001, transport by sea increased significantly, partly due to insufficient railway transport capacity.
- Sino-Russia cooperation on Siberian forest development accelerated following a top-level meeting held between the two nations in 2000. Chinese-run logging and export operations in Russia have developed gradually amid rising private sector business opportunities involving Russian timber.
- A crucial recent trend in the Sino-Russia timber trade has been the successful development of a '*made in China*' wood products industry based on Russian timber, both in terms of net production and export to the United States, Europe and Japan.

3 Recent key trends in the Chinese timber market and trade

3.1 Overview

Since the second half of the 1990s, China's total commercial log consumption has remained essentially unchanged at around 1.4 million m^3, though consumption in the construction sector has increased (Table 1). However, shifts in the source of log supplies have been significant, with sharp increases in log imports to compensate for the sharp reduction in domestic log production that occurred after 1998. Domestic log production from natural forests has continued to decrease, mainly due to the rigorous implementation of NFPP. In 2001, the total domestic timber supply increased to 51 million m^3 from 47 million m^3 in 2000, due to greater log production from manmade forests.

Log imports have increased steadily since 1995, though the rate of increase has been particularly high since 1998. In 2001, the volume of logs imported into China exceeded those into Japan, reaching 16.86 million m^3 or more than five times the volume in 1996. In 1999, the year that NFPP was launched, the volume of log imports increased an additional 2.2 times above the figure for the preceding year. Since 1999, the rate of increase has dropped slightly but remains relatively high, with an annual increase of 34 per cent in 2000 and 24 per cent in 2001. The volume of log imports in 2002 was initially estimated to have reached 20 million m^3, though in reality the import volume by September 2002

[3] See Yamane (2001) and CSFA (2002)

Table 1 China's wood supply and demand, 1996 to 2002.

		1996	1997	1998	1999	2000	2001	2002*
Supply	Surplus from previous year	3,947	4,262	3,815	3,957	4,190	4,135	4,050
	Domestic production	14,447	13,767	13,500	13,000	12,800	12,600	12,000
	Of which industrial wood	6,710	6,395	5,966	5,327	4,724	5,100	n.d.
	Total domestic supply	18,394	18,029	17,315	16,957	16,990	16,735	16,050
	Import	318	446	460	1,013	1,361	1,686	2,009**
	Of which coniferous	65	96	149	457	640	914	1,539
	Total supply	18,712	18,475	17,775	17,970	18,351	18,421	18,050**
Demand	Total domestic consumption	14,444	14,654	13,812	13,774	14,210	14,365	14,385
	Of which house-building	4,127	4,158	4,230	4,250	4,360	4,300	4,350
	Of which industrial production	10,317	10,496	9,582	9,524	9,850	10,065	10,035
	Export	6	6.3	6.1	5.8	6	6	7
	Total demand	14,450	14,660	13,818	13,780	14,216	14,371	14,392
	Surplus	4,262	3,815	3,957	4,190	4,135	4,050	3,658

Note: Figures are in 10,000 m^3.

* All figures for 2002 are estimates for the period from January to September only, apart from ** which are actual data for the same period; n.d. = no data.

Source: Based on data from Chinawood (May 2002 and October 2002).

Table 2 Total consumption (domestic production plus imports) of major wood products, 1998 to 2001.

Item	1996	1997	1998	1999	2000	2001	2002*	2000/ 1999 (%)	2001/ 2000 (%)
Logs (total)	319	446	482	1,014	1,361	1,686	2,009	34	24
Logs (coniferous)	65	96	149	457	640	914	1,539	41	43
Sawnwood	94	133	169	276	361	406	442	35	11
Plywood	178	149	169	104	100	65	52	- 4	- 35
Fibreboard	34	46	57	80	102	107	95	28	6
Particle board	108	148	156	248	344	n.d.	n.d.	39	n.d.

Note: Figures are in 10,000 m^3.

* All figures for 2002 are for the period from January to September only; n.d. = data not available.

Source: Based on official statistics from CSFA (2002) and Chinawood (February 2002 and October 2002).

had already exceeded this figure[4]. Based on the rate over the first nine months of the year, the annual import volume for 2002 is expected to have reached 25 million m^3.

Whilst the imported volume of other wood products is not as large as for roundwood, imports for products such as primary sawnwood, fibreboard and particle board have all shown a gradual increase since 1996. Thus, for example, the import volume of sawnwood has increased by approximately four times, and that of fibreboard by over three times in that period (Table 2). In contrast, the import of plywood has decreased since 1998, and in 2001 was only one-third of the volume imported in 1996. Despite this, the export volume of plywood has increased sharply in the same period, surpassing the import volume in 2001.

3.2 Timber consumption

(a) Wood consumption in 2001

Annual timber consumption in 2001 was estimated at

[4] Source : *Chinawood,* October 2002.

Table 3 Major source countries of China's timber imports.

Species/country	2001	share	2002*	share	2002/2001 % change
Coniferous	9,419	54.96%	15,392	70.03%	63.40%
Russia	8,227	48.00%	11,722	53.34%	42.50%
New Zealand	708	4.13%	3,382	15.39%	377.70%
Broadleaf	7,720	45.04%	6,587	29.97%	-14.70%
Tropical	6,413	37.42%	4,782	21.76%	-25.40%
Malaysia	1,505	8.78%	1,544	7.02%	2.60%
Indonesia	1,138	6.64%	221	1.01%	-80.60%
Gabon	1,125	6.56%	878	3.99%	-21.90%
Temperate	1,180	6.89%	1,804	8.21%	52.90%
Russia	537	3.13%	676	3.08%	25.80%
Germany	392	2.29%	360	1.64%	-8.20%
France	143	0.83%	63	0.29%	-55.60%
USA	37	0.22%	48	0.22%	29.40%

Note: Figures are in10,000 m^3.

* All figures for 2002 are for the period from January to September only.

Source: Based on official statistics from CSFA (2002) and Chinawood (February 2002 and October 2002).

Table 4 China's recent key indices for housing construction.

Category	Index	Unit	City	Rural
Area of housing	Floor space per house	m^2/house	32.2	104.2
	Floor space per person			
	Floor space	m^2/person	20.4	
	Residential floor space	m^2/person	14.9	
	Living floor space	m^2/person	10.2	24.8
Housing stock	Gross floor area (GFA)			
	Floor space	million m^2	4,409	
	Living floor space	million m^2	2,232	
Housing flow	Annual construction of GFA			
	Floor space	million m^2	54.9	79.7

Note: Floor space includes common use space. Living floor space is defined as all residential floor space excluding kitchen and sanitary space.

Source: Based on data from Kamemura (2002).

over 250 million m^3 (excluding non-commercial logs such as firewood fuel and building materials at the household level), equivalent to approximately 150 million m^3 logs. Of this total consumption, 54 million m^3 (21.6 per cent) were used for construction and decoration purposes (Zhu 2002). A further 27 million m^3 (10.8 per cent) were used in furniture production. The consumption for paper accounted for 75 million m^3, whilst the volume consumed through agricultural uses and rural housing construction amounted to 58 million m^3 in total.

However, according to other reports, consumption in the construction and interior decoration sectors accounted for 69.9 per cent of total consumption, furniture manufacturing accounted for 11.6 per cent, and pulp and paper production consumed 8.2 per cent.

Whilst the detailed figures for wood consumption may therefore differ, it is certain that consumption for housing and construction constitutes a significant proportion of the total, between 21.6 per cent and 69.9 percent.

(b) House construction

In 1999, the Chinese government abolished its traditional housing allocation system, giving way to a new home ownership system. At the same time the government began promoting housing improvement and reform policies focusing on encouraging private ownership of housing and upgrading housing quality. Key measures have included the sales of previously publicly-owned housing, promoting house construction with the target of 15 to 18 m^2 of floor space per person in 2010, and the development of institutional and financial services

Table 5 China's housing construction from 1950 to 2000.

Period	Housing construction, 100 million m^2	Average annual housing construction, 10,000 m^2
1950-1975	4.4	1760
1976-1985	9.2	9153.4
1986-1995	16.9	16894.7
1996	3.95	39450.5
1997	4.06	40550.2
1998	4.76	47616.9
1999	5.59	55868.9
2000	5.49	54859.8

Source: Kamemura (2002).

and arrangements such as personal loans and other types of bank loans for house acquisition.

These measures have made steady progress so far. The 80 per cent of publicly-owned urban housing that was made available for sale had all been sold to private owners by the year 2000, and markets for house buying and selling have opened to the public in almost all provinces and cities. Housing sales increased significantly after 1998 and exceeded 130 million m^2 in 2001, up from around 30 million m^2 in 1991 (Table 3).

In China's ninth five-year plan for house construction (1996-2000), the investment for housing construction in urban areas was 1,600 billion RMB, equivalent to 6 per cent of the national GDP. The total additional floor space built during the plan period reached 2.385 billion m^2, more than twice the initial target (Table 4). The floor space per city dweller reached 10.2 m^2 in 2000, exceeding the target 9 m^2 designated in the plan. House construction in rural areas was 646 million m^2, exceeding the targeted additional space of 56 million m^2, with rapid growth of housing-related investments. Due to this house construction boom in both urban and rural areas, the demand for wooden furniture and fittings has increased considerably, stimulating rapid growth in the production of wooden materials including plywood, fibreboard and particle board.

(c) Great Western Development

Although the additional volume of timber demand generated by the 'Great Western Development' project remains at this stage unclear, it is certain that the project, which came into effect with official approval from the National People's Congress in 2000, will have a major impact on the country's timber market. This top-priority national project aims to narrow the economic disparity between southeastern coastal areas and the western inland areas which face serious poverty-related problems[5].

[5] The target areas in the year 2002 total 17 provinces and autonomous regions, including Shaanxi, Ningxia, Gansu, Xinjiang Uighur, Qinghai, Sichuan, Yunnan, Guizhou, Tibet, Shanxi, Inner-Mongolia, Jilin, Heilonjiang, Anhui, Jiangxi, Henan, Hunan, Hubei and Chongqiang direct control city.

The emphasis has been put on those projects which focus on infrastructure development and construction ; the strengthening of ecological development strategies with special attention to forest conservation and the mitigation of desertification ; the upgrading of industrial structures especially in state enterprises ; enhancement of the sciences, technology and education ; improving human resource development ; and further economic reform and liberalization. The infrastructure development and construction projects incorporate various kinds of public works, including amongst others, the construction of a total of 350,000 kilometers of new road networks and a Qinghai-Tibetan railway line, as well as improvements to local railway lines ; international airport development ; and improvements to and development of new water facilities along the Yangtze and Yellow Rivers.

The Chinese government plans to invest around 300 billion RMB in newly launched infrastructure development and construction projects. In 2000, 43 billion RMB from national debt financing was invested in western China.

(d) Infrastructure development for the 2008 Beijing Olympics

Additional timber demand brought about by preparations for the 2008 Olympics will be substantial, especially in the area of public works. This includes not only urban renewal and the construction of new facilities in Beijing, but also the resulting construction boom of sport facilities, and the anticipated real estate boom throughout every province of the country. Work on the Olympics project will commence in 2003, with an investment of 280 billion RMB (about U.S.$33.8 billion), including 180 billion RMB for city infrastructure, 17 billion RMB for stadiums and 71.3 RMB for environmental works (Zhu 2002).

3.3 Import trade in 2001

In 2001, China's imports of logs and sawnwood increased significantly due to strong domestic timber demand, while imports of plywood and veneer decreased sharply due to the dynamic expansion of the domestic plywood industry. Such trends appear to have con-

tinued in 2002.

Coniferous logs made up 55 per cent of total timber imports in 2001, whilst tropical logs and temperate hardwood logs constituted about 37 per cent and 7 per cent of the total, respectively. This dominance of coniferous logs in timber imports has been apparent since 1998. Prior to that, tropical timber accounted for the bulk of log imports, and as such it can be seen that the structure and composition of log imports has changed within the last few years.

Of the total coniferous log imports, Russian timber constitutes the greatest single component as it has in the past, with an 87 per cent share, though imports from New Zealand have increased gradually (Table 5). Malaysia, Indonesia and Gabon were the leading tropical log suppliers though China also imported a certain amount of tropical logs from Equatorial Guinea, Myanmar, Papua New Guinea and Cameroon. For temperate hardwood logs, Russia was the top supplier, supplying about 540,000 m^3, and Germany was second, supplying around 400,000 m^3. Log imports from the United States are still small but have increased in the last two years.

4 The state of key forest-related policies in China

4.1 Overview

There were no significant policy changes in the forestry sector in 2001. However, the State Forestry Administration (SFA), China's top governing body on forestry affairs, made preparations in 2002 to initiate two important tasks, the first being a draft decision on forestry development (with the final decision due to be issued by the State Council of China's central government in early 2003), and the second being a strategic study on sustainable development within the Chinese forestry sector. This study will outline a vision of key issues, strategies and approaches for the sustainable development of forestry over the next 50 years.

4.2 Trade policy

Timber imports are a key countermeasure to address the shortages in domestic timber production and trade (CSFA 2002). Since the 1980s, the Chinese government has actively promoted policies designed to open the country to foreign business and trade liberalization in a stepwise fashion and in accordance with global trends. The government has committed itself to eliminate non-tariff barriers by the year 2004 and all trade barriers on forest products have already been removed. Trade management regulations such as the granting of export permission, registration of import operations and official inspection of import and export products, have also been extensively lifted, and the emerging favorable circumstances make it easy for private business enterprises to enter into trading operations.

In 2001 and 2002 there were no significant trade policy changes relating to the forestry sector. However as China formally joined the WTO in November 2001, further tariff reductions on most commodities came into effect as a result of various commitments made for entry into WTO, both in 2001 and in 2002. The average tariff in China decreased from 15.3 per cent in 2001, to 12 per cent in 2002, compared with 16.44 per cent in 1999[6]. From 1st January 2002, the tariff for plywood was reduced from about 15 per cent to about 10 per cent, while that of veneer was reduced from about 8 per cent to about 4 per cent. The half taxation policy[7] directed towards small-scale, cross-border Russian timber trade operations remained unchanged.

On the grounds that log imports have been increasing substantially over the last few years and thus the risk of pest invasion has risen rapidly, the Chinese government issued a new log quarantine regulation in February 2001. The regulation requires the fumigation of all log imports and the issuance of a quarantine certificate by the exporting country on imports of logs with bark. For logs without bark, an inspection of the logs for pests and soil, and a quarantine certificate are requested at the time of clearing customs. With regards to Russian logs, the implementation of the regulation was postponed until the following year and China held working-level negotiations with Russia to resolve feasible means with which to address these matters. In September 2002 they reached an agreement. All Russian logs with bark attached which are imported via inland gateways between April and October should be treated by fumigation at treatment stations on the Chinese side of the border, under official Chinese supervision. In the case of marine transport, all logs imported during the same period should be treated by fumigation before entry into China. For logs without bark attached, China requests an inspection and quarantine certificate to be issued on the Russian side.

4.3 Forest protection and conservation

It can be concluded that the year 2001 was a milestone for forest protection and conservation policy change in China. The SFA initiated six key forestry programmes. Among them, the first five programmes were all related to forest protection and conservation. They are the NFPP or Land Conversion Programme (LCP), the 'Three-Norths' (Northeast, Northwest and North region) shelterbelt programme, theYangtze River upper and middle reaches shelterbelt programme, a sand control programme around the Beijing area, and a wildlife conservation programme. These five programmes have all been implemented so far with billions of dollars of government investment each year.

The most recent of these projects, the plantation de-

[6] The average tariff was 57 per cent in 1992, 42 per cent in 1994, 35.9 per cent in 1995, and 23 per cent in 1996.

[7] This policy cuts the tax rate imposed on inland border trade by fifty per cent.

Table 6 Number of companies in China sourcing certified timber through a 'chain of custody' (CoC) system under Forest Stewardship Council (FSC) certification, as of 31st December 2001.

Provinces	Auditors			Major products
	SCS	SGS	SmartWood	
Liaoning	3	-	-	Fittings
Jiangsu	-	1	-	Furniture
Shanghai	-	1	-	Furniture
Fujian	-	2	-	Fittings
Hongkong	-	3	-	Furniture & fittings
Tianjin	-	-	1	Gardening equipments
Guangong	-	9	9	Furniture & fittings
Total	3	16	10	-

Note: SGS = Societe General de Surveillance, UK; SCS = Scientific Certification System, USA.
Source: Based on data from China Forest Certification Newsletter 2001(1), WWF-China and China Academy of Forestry.

velopment programme, was implemented in early 2002, and involves the establishment of a base resource of fast-growing and high-production forests to provide timber. The formal implementation of the project now covers 886 counties (cities and districts) in the following 18 provinces and autonomous regions : Hebei, Inner Mongolia, Liaoning, Jilin, Heilongjiang, Jiangsu, Zhejiang, Anhui, Fujian, Jiangxi, Shandong, Henan, Hunan, Hubei, Guangdong, Guangxi, Hainan and Yunnan. The general objective of the project is to develop 200 million *mu* (about 13.3 million hectares) of land for fast-growing and high-yield plantation forestry, with harvesting scheduled to begin in 2015, by way of afforestation and conversion of old forests. The implementation of the project will bring about additional domestic timber production, which is expected to meet around 40 per cent of the nation's timber demand through the sustainable felling of existing timber resources, and is eventually anticipated to achieve self sufficiency for China's timber requirements. The project will bring about a shift in the source of domestic timber production from natural to manmade forests. Moreover, this project is expected to provide a guarantee for the implementation of other key afforestation projects for ecological purposes, and will in the meantime absorb a significant proportion of the surplus workforce in the countryside and so assist in the adjustment of industrial structures and promote economic development in rural areas.

These six projects, involving 97 per cent of China's counties, are planned to eventually cover 76 million hectares.

4.4 Forest certification

The Chinese government attaches great importance to forest certification, and has made significant progress in this area since 2001 (Yamane 2001). The government set up the "Lead Group on Forest Certification Work in China" in July 2001. The World Wide Fund for Nature (WWF) initiated in May 2001 the "Working Group on Forest Certification" and also funded a project at the Chinese Academy of Forestry (CAF). Also in 2001, the government commissioned a team to develop national standards on forest certification. A training course was sponsored by the SFA in Beijing in October 2001 and a workshop sponsored by six parties, including the SFA, WWF and the China Academy of Forestry, was held in Jilin Province in December 2001.

The demand for wood products using certified timber is still small but has risen mainly among foreign mass-market retailers such as IKEA (the prominent Swedish international furniture distributor), B&Q (a large British home furnishing chain store), and Carrefour (a French world-wide supermarket chain store) (Yamane 2001). The demand for certified tropical timber has also increased gradually in export-oriented wood product processing enterprises. By the end of December 2001, the number of companies in China sourcing certified timber through a 'chain of custody' (CoC) system under Forest Stewardship Council (FSC) certification reached 29, up from 17 at the end of June 2001 (Table 6). Most of these companies are located near coastal cities and export products such as furniture and fittings to the United States and Europe.

In terms of forest certification, Changhua Forest Farm, a forest management unit in Zhejiang Province, was assessed in 2001 and a certificate granted under the FSC-accredited SmartWood programme in February 2002.

4.5 Forest tenure and taxation

There was no major policy change on forest tenure and taxation in 2001 or 2002. The government attempted to maintain forest tenure stability through stronger law enforcement and regulatory measures. Forest taxation is a major problem in the forestry sector in China (Lu *et al.* 2002), and the government has become increasingly aware of this problem. Major reforms here, along with rural taxation reform, are expected very soon. Trial reforms for rural taxation began in Anhui Province in

Table 7 Changes in timber import volumes at individual gateways, 1996 to 2001.

	Province	Gateway	Year					
			1996	1997	1998	1999	2000	2001
Inland	Inner -Mongolia	Manzhouli	150	3,880	672	1,824	2,153	3,115
		Erlianhot	18	119	262	956	1,542	1,676
	Heilongjiang	Suifenhe	276	385	563	1,355	2,070	3,144
		Heihe	3	0.2	4	106	60	71
		Other minor gateways	47	28	22	59	103	474
	Jilin	Hunchun	0.6	0	1	11	9	31
	Xinjiang	Alashankou	0	0	0.3	8	7	16
Coastal (% of total)	-	-	54 (10)	41 (4.2)	66 (4.2)	80 (1.8)	95 (1.6)	562 (6.2)
		Total	542	960	1,590	4,400	5,936	9,089

Note: Figures are in 1,000 m^3.

Source: Based on China trade statistics.

2000, and expanded to other provinces in 2001. The general approach of such reform, including forest taxation reforms, has been to reduce the overall tax rate very significantly in order to benefit rural farmers, including forest farmers, and attract more investment in rural areas.

5 State of Sino-Russia timber trade

5.1 Overview of the recent situation

With an average annual growth rate of more than 40 per cent in the period 1995 to 2000, timber imports from Russia have increased steadily since 1995. The volume imported in 2000 was seventeen times that of 1995. The market share of timber imports from Russia in that year increased to 43.6 per cent, up from 13.9 per cent in 1995. In 2001, timber imports from Russia rose to 8.77 million m^3, accounting for around 52 per cent of China's total timber imports. The preliminary figures for trade statistics in 2002[8] show that timber imports from Russia have maintained steady growth, reflecting the general trend in China's timber market, and that the cumulative import volumes of Russian timber from January to July exceeded the total import volume of 2001.

Roundwood is a main component of the timber imported from Russia. Although primary sawnwood did not exceed 5 per cent of the total import in the past, its import volume has increased sharply in the last few years.

Russian logs have dominated China's timber trade mainly due to the following reasons. Firstly, Russian logs are high in quality and large in diameter as compared with Chinese timber, and in terms of potential uses they compare well to alternatives coming from China's northeast region, such as Mongolian pine, Korean pine and larch. Secondly, Russian timber is cheap or moderate in price due to low labour costs in Russia, and because of low transportation costs brought about by the volume of border trade. Thirdly, imported Russian timber can readily replace the dwindling supplies from China's natural forests in northeastern and northwestern regions where harvesting has decreased or even stopped altogether as a result of logging bans imposed under NFPP.

Most of the imported logs from Russia are transported through inland borders, mainly by railway. The main gateways for Sino-Russia land border trade are Manzhouli, Erlianhot and Suifenhe, all which have direct railway connections with Russia. The annual log import volume passing through these three gateways from Russia has constituted more than a 90 per cent of the total in the past several years (Table 7). However, since 2001, marine transport has increased slightly. The port city of Dalian has become the top marine gateway both for Russian logs and sawnwood imports in the past few years.

The timber distribution network in China is poorly developed because of the short history of private sector timber trade, and because most timber import enterprises are only small to medium in size. On the Russian side, many medium- and small-sized timber export enterprises have appeared rapidly in recent years and tend to operate closely with each other, and some are considered to be pivotal in the trade of illegal logs destined for China.

5.2 Recent trends in the Sino-Russian timber trade

A governmental agreement was reached on Sino-Russia economic and trade cooperation, including Siberian forest development, in November 2000[9]. Due in part

[8] Source : *Chinawood,* September 2002.

[9] Joint Communique on the Fifth Regular Meeting between the Heads of Government of the People's Republic of China and the Russian Federation (12th March 2000)

Table 8 Chinese logging operations in Russia, 1999 to 2001.

	1999	2000	2001
Volume of Russian timber harvested by Chinese logging operations	24	27	32
Volume as % of total timber imported into China	2.37	1.98	1.90
Volume of Russian timber exported to China by Chinese operations	10	17	17
Volume as % of total timber imported into China	0.99	1.25	1.01

Note: Figures are in 10,000 m^3.

Source: Sun (2002).

Table 9 Imports of selected wood-based building materials from China into Japan.

Category	units	1998	2001	% change
Larch flooring	m^3	791	6010	+660%
Other softwood flooring	m^3	715	7462	+944%
Hardwood flooring	m^3	18266	54258	+197%
Doors & frames	000 kg	528	1269	+140%
Fittings & fixtures	000 kg	137	212	+55%
Structural laminated lumber	m^3	3544	24600	+594%

Source: From Flynn (2002), based on Japan Lumber Journal, citing Japan Ministry of Finance import statistics.

to the improved relationship between China and Russia, logging activities in Russia and the export of Russian logs to China by Chinese enterprises have gradually increased. In 2001, logging operations in Russia run directly by Chinese enterprises harvested 320,000 m^3 of timber, and 170,000 m^3 were exported to China (Table 8).

The half taxation policy at the Russian border for small-scale enterprises (including small-scale border trade in timber), remained unchanged in 2001 and 2002. This continuation of the policy also contributed to the significant increase in Russian timber imports.

Dialogue in the private sector has become active recently. A business meeting entitled 'the Sino-Russia Wood Trade & Investment Conference' was held on 17th and 18th November 2002 in Beijing, organized by China Wood International Inc., with more than 130 participants, including forest-related officials and wood industry representatives from China, eastern Siberia, the Russian Far East, Japan, and elsewhere. The lively meeting addressed obstacles and sought solutions for the further development of Sino-Russia timber trade, and included vigorous business discussions among parties aiming to find partners. These are impressive signs of recent progress in Sino-Russia cooperation, particularly in the private sector.

5.3 Key trend : '*made in China*' wood products from Russian timber

A certain proportion of Russian logs and sawnwood imported into China is for domestic use as an alternative to domestically sourced timber. However, the remaining timber is processed as value-added products for export to western countries such as the United States and to Japan. The remarkable increase in production and export of '*made in China*' wood products from Russian timber is an important trend in China's growing timber market (Flynn 2002).

After Canada, China is the second largest importer of U.S. wood products (excluding furniture, wood pulp and paper). China's annual import of these products in 2001 was more than U.S. $1 million and for 2002 this figure is expected to reach U.S. $1 billion. Ninety per cent of these imported wood products are reportedly value-added wood products.

Japan's value-added wood product imports from China have grown in both volume and value over the last few years. Japan's imports of wood products from China reached U.S. $384 million in 2001, surpassing wood imports from Russia, at U.S. $135 million. The recent sharp increase of value-added building material imports, such as fittings and flooring, is noteworthy. While these were small in the past, the import volume increased by more than 500 per cent between 1998 and 2001 (Table 9). For the last two to three years, Japanese general trading companies such as C. Itoh (Itochu) and Sumitomo Forestry began to export these value-added '*made in China*' Russian wood products to Japan. In addition to this trend, processing factories established by Japanese and Singaporean capital have been set up in Dalian and have begun producing products labeled '*made in China*' from Russian wood.

Even in European countries, mainly the United Kingdom and Italy, wood product imports from China have grown sharply in the last few years. Taking the import

values of wooden fittings from China as an example, an analyst estimated that the value of European imports of these products will reach more than U.S. $8 million in 2002, a 100 per cent increase from 1999, and will surpass the value of builders' joinery exported from China to Japan for the first time. After 2002, these imports are expected to increase at a rapid pace (Flynn 2002).

The raw materials of value-added wood products made from red pine, larch, spruce, oak and ash will probably continue to be sourced mostly from Russia because China's domestic supply of these logs has plummeted due to the implementation of NFPP, and because China has been importing these logs mainly from Russia.

The high potential for a steady log supply, in the context of a rich Russian forest resource and reasonably priced log exports to China, is advantageous for the Sino-Russian timber trade. In addition, timber trade policies such as duty-free imports and the half taxation policy for Russian small-scale border traders, may have served as a further impetus for trade.

In addition to these factors, mention must also be made of the favorable conditions of the labour force in China, which is characterized by low wages and high levels of education, allowing for low-cost value-added wood processing. China has a surplus labour force in rural areas due to sudden structural adjustments involving state enterprises. Such a situation provides cheap labour that can easily be shifted to development areas. As an example, joint enterprises in Dalian producing '*made in China*' products from Russian wood have been able to realize the mass production of low-cost value-added products by hiring well-educated guest workers, aged eighteen to mid-twenties, from the northeast of China, laying them off after about three years under the control of the official family registration system, and also by rationalising on the unproductive 10 to 20 per cent of workers. Such a business model permits enterprises to enjoy a highly productive labour force whilst holding wages down[10]. Enterprises are also increasingly introducing efficient processing equipment to complement the of use manpower where manual operation is more cost-effective, seeking high quality production at a low cost.

6 Analysis and comment

6.1 Prospects for the future of China's timber market

There is a high possibility that China's timber consumption will steadily grow, due mainly to construction demand, as it has done over the past ten years. In 2002, China experienced many favorable opportunities for economic growth that are likely to continue, such as joining WTO ; initiation of the Great West Development programme ; selection for the 2008 Olympics ; and the initiation of massive national infrastructure development programmes. The tenth five-year national plan (2001-2005) adopted aggressive fiscal policies aimed at doubling GDP by the year 2010 from the level in 2000. All these factors will continue to stimulate the timber market across the country.

China's wood products processing industry is very likely to see a huge additional increase in log demand, with the entry of more foreign finance enterprises into the area of value-added wood products processing. The acceleration of economic liberalization and further deregulation accompanying WTO affiliation will provide improved conditions for foreign enterprises. On the other hand, the domestic supply of large-diameter roundwood will not recover until 2010, because log production in natural forests will be restricted or prohibited due to implementation of NFPP. The future domestic log supply, produced in plantations of fast-growing species, will be characterized by a greater proportion of small logs relative to large ones, more coniferous timber and less hardwood, and more low-quality logs and fewer good quality logs, as compared with previous harvests from natural forests.

Accordingly, it can be concluded that the short-term perspective for China's timber market will remain relatively unchanged, compared with 2001 and 2002. The volume of imported timber will continue to increase rapidly. In the import trade, logs from Russia will dominate, followed by logs from New Zealand. Tropical hardwoods will still be sourced mainly from Southeast Asian countries such as Malaysia, Indonesia, Myanmar and Papua New Guinea, and West African countries such as Gabon, Equatorial Guinea and Liberia. Besides Russia, temperate hardwoods and in particular beech, will continue to be sourced primarily from Germany and France.

6.2 Problems to be resolved for a developing Sino-Russian timber trade

Enhancement of China's transportation infrastructure and the environmental suitability of Russian logs are key issues that require attention as the Sino-Russian timber trade grows.

Railways, the main component of China's domestic transportation system, are reaching the limits of their capacity. In addition, the competition for railway cars-to carry Russian timber from inland border gateways and distribute other domestic products such as agricultural commodities and industrial materials-has intensified due to the country's continuous economic growth under economic liberalization policies. As a result, delays in the delivery of Russian timber from the inland border gateways occur frequently. The recent growth of timber

[10] According to the field survey in conducted in Dalian (August 2002), the average monthly wages for workers, including welfare expenses, were around 1,000 to 1,200 RMB and their monthly take-home pay was around 700 RMB.

imports by marine routes, as mentioned, may be partly a response to this situation. Thus, the bolstering of railway transportation and diversification of transportation modes are essential requirements if the Sino-Russian timber trade is to grow further.

The environmental suitability of Russian logs may be a key issue affecting further exports to developed countries of '*made-in-China*' products based on Russian wood. Chinese administrative officials have made an effort to show that Russian logs clearing official customs import procedures on the Chinese side do not include any illegal logs and that the illegal felling and trading should rightly be considered a problem on the Russian side. Environmental non-governmental organizations in international society, however, have frequently pointed out that China does import a certain amount of Russian logs illegally. Several Russian officials at a recent international conference maintained that Russian logs are being exported to China illegally[11]. As the Sino-Russian timber trade develops further, international society has become more aware of these problems, and as a result, there is increasing pressure for China to enforce countermeasures. In order to increase the market share of '*made-in-China*' wood products, especially in the European market where wood products derived from certificated timber are becoming increasingly popular, resolving issues relating to environmental suitability of products at all stages, from harvesting to processing of the final product, will very likely become a necessity. In response to these new requirements, the approach followed by Finland, which also imports timber from Russia and thus faces similar problems relating to illegal log imports, may provide a useful point of reference. In Finland's case, examples of countermeasures include a support system created to allow forest operations to acquire forest management certification in the timber-supplying district, as well as agreements reached in the private sector prohibiting the use logs harvested from pristine old-growth forests.

Besides the issues mentioned above, some observers have pointed out the need for improvements in the timber market itself. If progress is made in the areas covered here, Chinese imports of Russian timber are likely to increase further.

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[11] For example, a presentation by Russian high officials from the Krasnoyarsk forest authority at the "Sino-Russian Wood Trade & Investment Conference," 17–18 November 2002, Beijing, China.

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Trends in Malaysian Forest Policy

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Abstract : Forests have played an important role in the resource-based socio-economic development of Malaysia. In 2001, the export value of wood and wood-based products was RM 14.3 billion or 4.3 per cent of the country's total export value and accounted for 3.4 per cent of GDP. Employment created in the forestry sector totaled 337,000 jobs. This paper provides the background to the development of both forestry and the forest-based industries in Malaysia. It also examines the steps that are being taken to ensure that the forests are managed on a sustainable basis. The move towards forest and timber certification is also highlighted. The successful development of the forestry sector through various industrial master plans and relevant forest policies and legislation is also discussed. As the forest resource is fast depleting, forest plantations will become the main source of timber supply in the near future. Natural forests will increasingly be managed more for environmental and ecological services rather than for timber supply.

Key words : Forestry policies, sustainable forest management, forest and timber certification, timber trade, forest-based industries.

1 Overview of forest policy trends in Malaysia

Malaysia was formed in 1963 and consists of three regions, namely, Peninsula Malaysia (composed of 11 Federated Malay States which achieved independence from the British government in 1957), Sarawak and Sabah. Since then, three separate bodies have determined Malaysia's forest policy : (a) Peninsular Malaysia Forestry Department in Kuala Lumpur, (b) the Forestry Department Sabah and (c) the Forestry Department Sarawak.

Under Article 74 (2) of the Malaysian Constitution, forestry is a state matter, and as such, the thirteen state governments have complete jurisdiction over their forest resources. Each state is empowered to enact laws on forestry and to formulate forestry policy independently. The federal government only provides technical advice and assistance on forest management, training, the conduct of research, and in the maintenance of experimental and demonstration stations. Nonetheless, a close relationship between the states and federal government is essential regarding all land and forestry issues.

1.1 National Forest Policy

In Peninsular Malaysia an Interim Forestry Policy was first formulated in 1952 and officially adopted as the National Forestry Policy (NFP) in 1978. In Sarawak, the Sarawak Forest Ordinance 1954 provides the necessary legal framework, while in Sabah, the Sabah Forest Enactment 1968 provides the legal backing to ensure the implementation of state forest policy.

Although the forest policies of Peninsular Malaysia, Sarawak and Sabah have developed independently of each other, they nevertheless share many similarities. They all include provision for the creation of permanent forests for protective and production purposes. The policies also state that forest resources can be harvested for export purposes. The importance of long term planning and security of tenure is also emphasized in the three forest policies. They also provide for the promotion of "thorough and economical utilization of forest produce on land not included in the forest estate, prior to the alienation of such land" (Radzuan, 1975).

The similarities in the forest policy of the three regions are not accidental, as the colonial master of the three regions often transferred forest officers between the different states. However, in the interpretation and implementation of the respective forest policies, many differences become apparent. One glaring example is the setting of royalty rates for timber species. The rate for *ramin* is only RM 11 per m^3 in Pahang (which happens to be a major producer of *ramin*), whereas the rate is RM 88 per m^3 in the neighboring state of Negeri Sembilan.

With the formation of Malaysia in 1963, there was a need to unify the forest policies of the three regions. As a result, the National Forestry Council (NFC) was established in December 1971 by the National Land Council (NLC) to facilitate the adoption of a coordinated and common approach to forestry issues, including the planned, rational and effective management and utilization of forest resources. The NFC membership comprises the Chief Minister of each of the thirteen states and is chaired by the Deputy Prime Minister. The responsibility for implementing the decisions of the NFC lies with the state governments unless the matter falls under the authority of the federal government.

As a result of the NFC agenda, an Interim Forest Policy of 1972 was formulated which laid the basis for the 1978 National Forestry Policy (covering all the three regions, Peninsula Malaysia, Sabah and Sarawak).

This National Forest Policy recognizes "the vital role of forests for the welfare of the community and national

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economy through their multiple uses". The policy also forms "a basis for close co-operation among state and federal governments, in the proper and effective management of forests and utilization of forest resources" (FDPM, 1978), as land management in Malaysia is a state matter.

Recognizing the dire need to rationalize land use policies in relation to the conservation of forest resources and their management on a sustainable basis, a National Forestry Policy (NFP) for Peninsular Malaysia was formulated and approved for implementation in 1978. The NFP is implemented through the National Forestry Act of 1984.

Key aspects of NFP are : -

- To dedicate areas of forest land as Permanent Forest Estate (PFE) ;
- To manage the PFE with the objective of maximizing social, economic and environmental benefits in accordance with the principles of sound forest management ;
- To pursue a programme of forest development through regeneration and rehabilitation operations ;
- To ensure thorough and efficient utilization of forest resources, not included in the PFE ;
- To promote sound harvesting techniques and utilization of all forms of forest produce and to stimulate the development of wood-based industries ; and
- To undertake and support a comprehensive programme of forestry training.

In light of the UNCED Conference in 1992, the discussions and agreements reached within ITTO and new research findings, both the National Forestry Policy and the National Forestry Act of 1984 were reviewed and amended in 1992 and 1993 respectively.

The National Forestry Policy was revised to accommodate greater emphasis on environmental protection and the conservation of biological diversity, and the National Forestry Act 1984 was amended to strengthen its effectiveness in dealing with forest encroachment and illegal logging. Thus the penalty for any forest offence was increased from a maximum of RM 10,000 or imprisonment for a term not exceeding 3 years, to a maximum of RM 500,000 and imprisonment for up to 20 years, and a mandatory imprisonment of at least one year (Thang 2002). Provision for the police and armed forces to undertake surveillance of forestry activities was incorporated in the new Act and this, together with the stiffer penalties, has helped to curb illegal logging and forestry encroachment.

1.2 Forest charges

The Malaysian Timber Industry Board (MTIB) is the statutory body responsible for administering federal forest charges in Peninsular Malaysia. MTIB issues export licenses, collects export taxes and acts as an enforcement agency with limited police powers. In addition, it is mandated to promote and improve trade, encourage the effective utilization of timber, promote efficient timber processing techniques and provide technical advisory services. A portion of the revenue collected by MTIB is used to finance on-going forest activities in Peninsular Malaysia, both at the federal and state level, including research needs.

The individual states also collect forest charges through royalties, premiums and silvicultural cess. This is coordinated by the Forest Rules under the various State Forest Enactments. The silvicultural cess varies between RM 2.80 to RM 10 per m^3 (depending on the state) of timber extracted and is retained by the State Forestry Department. The silvicultural cess is used to fund forest rehabilitation projects and for maintaining the forests in the state. On the other hand, premiums and royalties are collected and transferred to the State Consolidated Account and are usually used by the State to fund other developmental projects (*i.e.* non forestry-related activities).

1.3 National policy on biological diversity

In 1998, the National Policy on Biodiversity (MOSTE, 1998) was formulated to protect Malaysia's rich flora and fauna for the benefit of present and future generations. It aims to set the direction for Malaysia to implement strategies, action plans and programmes on the conservation of biological diversity and the sustainable utilisation of biological resources. The policy's mission is "to conserve Malaysia's biological diversity and to ensure that its components are utilised in a sustainable manner for the continued progress and socio-economic development of the nation".

Conservation and sustainable utilisation of Malaysia's biological diversity are based on the following principles and considerations :

a) The conservation ethic, including the inherent right to existence of all living forms, which is deeply rooted in the religious and cultural values of all Malaysians ;
b) Biological diversity is a national heritage that must be sustainably managed and wisely utilized today and conserved for future generations ;
c) Biological resources are natural capital and their conservation is an investment that will yield benefits locally, nationally and globally for present and future generations ;
d) The benefits derived from the sustainable management of biological diversity will accrue, directly or indirectly, throughout every sector of society ;
e) The sustainable management of biological diversity is the responsibility of all sectors of society ;
f) It is the duty of the Government to formulate and implement the policy framework for sustainable management and utilization of biological diversity in close cooperation with scientists, the business community and the public ;

g) The role of local communities in the conservation, management and utilization of biological diversity must be recognized and their rightful share of benefits should be ensured ;
h) Issues in biological diversity transcend national boundaries and Malaysia must continue to exercise a proactive and constructive role in international activities ;
i) The interdependence of nations on biological diversity and in the utilization of its components for the well-being of mankind is recognized. International cooperation and collaboration is vital for fair and equitable sharing of biological resources, as well as to ensure access to and transfer of relevant technology ;
j) Public awareness and education is essential for ensuring the conservation of biological diversity and the sustainable utilisation of its components ; and
k) In the utilization of biological diversity, including the development of biotechnology, the principles and practice of bio-safety should be adhered to.

1.4 Other legislation relating to forestry

The following is a list of other legislation which is of relevance to the forestry sector :

- Water Enactment Act 1935
- Land Conservation Act 1960
- National Land Code 1965
- National Forestry Act 1984 (Act 313)
- Protection of Wild Life Act 1972 (Act 76)
- Malaysian Timber Industry Board Act 1973
- Environmental Quality Act 1974 (Act 127)
- Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 1987
- National Park Act 1980
- Malaysian Forestry Research and Development Act 1985
- Wood-based Industries (State Legislatures Competency) Act 1984 (Act 314)

The enforcement of these laws is expected to go a long way towards the achievement of national objectives, as they embody a vital change in the philosophy of forest management, away from simply ensuring sustainable yield to actively pursuing sustainable management (Abdul Razak *et al.,* 2002). Henceforth, forest management will be judged not just on the basis of the forests' capacity to produce output in perpetuity, but more so on how the forests are managed to achieve the delicate balance between their various functions. In the 21st century, the dictates of these varied functions will assume greater importance, particularly those pertaining to environmental and conservation considerations.

2 Sustainable Forest Management

2.1 Historical perspective of forest management

Since the beginning of the twentieth century, Malaysia has evolved a systematic and sustainable yield policy with regards to the management of her forests. With the establishment of the Forestry Department in 1901, the forests of Malaysia have been systematically managed whereby ecologically and environmentally sound forest conservation and management practices have been developed to ensure forest renewal and sustained yield.

In the early 1920s, forest management by Departmental Regeneration Improvement Felling (DRIF) was aimed solely at improving the existing stock through the removal of inferior species. However, with rising demand for firewood and poles from the mining industries in the 1930s, Commercial Regeneration Improvement Felling (CRIF) was introduced (Wyatt-Smith and Panton, 1995). This involved a 5-year regeneration period coupled with several fellings.

A few years after the Pacific War, Regeneration Improving Felling (RIF) was discontinued because of the increased demand for raw materials. This led to the formulation of the Malayan Uniform System (MUS) in 1948, which consists of removing the mature crop in one single felling of all trees down to 45 cm dbh for all species. This is immediately followed by systematic poisoning of unwanted species to release the natural regeneration of selected saplings and seedlings (Wyatt-Smith and Panton, 1995). The resulting crop becomes more or less even-aged and contains a greater proportion of commercial species.

The MUS however has been found to be unsuccessful in hill dipterocarp forest. Consequently, the Selective Management System (SMS) was introduced in 1978 to allow for a more flexible timber harvesting regime which is consistent with the need to safeguard the environment and at the same time take advantage of demand in the timber market (Appanah and Weinland, 1993).

2.2 Development of the Malaysian Criteria and Indicators

As a member of the International Tropical Timber Organization (ITTO), Malaysia is fully committed to the achievement of sustainable forest management. In this respect, Malaysia has taken several measures to implement the ITTO guidelines for the sustainable management of natural tropical forests and its criteria for the measurement of sustainable tropical forest management. Towards this end, a National Committee on Sustainable Forest Management was established in 1994 under the Ministry of Primary Industries to ensure that the criteria, indicators and activities related to sustainable forest management are put into operation. The National Committee has formulated a total of 92 activities, based on 5 criteria and 27 indicators to implement the ITTO criteria at the national level (Thang, 2002). At the same time, steps have also been taken to identify 84 activities under 6 criteria and 30 indicators at the forest management unit (FMU) level.

Peninsular Malaysia has also formulated 170 and 150 standards of performance for each of the activities identified at the national and FMU levels respectively. Thang (2002) reported that a subset of the MC&I formulated at the FMU level were prescribed for forest management certification (7 criteria, 53 indicators, 162 activities and 142 standards of performance).

These activities will be tested on the ground to establish their applicability. Institutional plans and capacity building are currently being undertaken to monitor the implementation of all these activities to be carried out at the state and FMU level. A Technical Monitoring Committee (TMC) has been established by the Forestry Department of Peninsular Malaysia to monitor the implementation of all the activities undertaken by each State Forestry Department in Peninsular Malaysia.

2.3 The forest resource base

To achieve SFM, Malaysia has committed to maintain at least 50 per cent of her land area under forest cover. With a total land area of 32.9 million hectares, the natural forest base currently stands at 18.9 million hectares. Out of this, a total of 14.1 million hectares of natural forests have been designated as Permanent Forest Estate (PFE) which will be permanently managed to ensure that the proper balance between various functions, such as production, protection, social and educational objectives, will be achieved. In addition 3.39 million hectares have been allocated for protection forests in the form of national parks, wildlife sanctuaries and nature reserves. These protective areas bear testimony to Malaysia's commitment to the maintenance of suitable habitats for fauna and flora to ensure the preservation of bio-diversity.

In the PFE designated as Production Forests, commercial logging is undertaken on a rotational cycle, under a sustained yield management system. Only a few mature trees (7 to 12 trees per hectare) are marked for felling at each harvesting cycle, thus giving the logged over area time for recovery and regeneration before the subsequent round (Thang, 2002). Under this selective logging system, Malaysian forests have the ability to return to their former eco-balance, thereby allowing for better biological functioning of the forests.

Besides the natural forest base, Malaysia has also established a total of 0.17 million hectares of forest plantations as well as 4.8 million hectares of agricultural tree crops, which are similar to re-afforested land. These forest and tree crop plantations play an integral part of sustainable forest management as they represent an important alternative source of renewable timber and fibre materials, which can contribute to reducing the pressures on natural forests. Taking these plantations into consideration, the total area under tree cover in Malaysia is estimated to be 23.86 hectares or 72.6 per cent of the total land area.

2.4 Forest concessions

In Peninsular Malaysia, concessions are categorized by size, each with its own length of tenure. Concessions between 0-1000 hectares are allocated for 1-2 years ; 1,001-2000 hectare concessions are allocated for 1-5 years ; 2,001-20,000 hectares are allocated for 10-30 years ; and those exceeding 20,001 hectares are allocated for 20-30 years. The federal government recognizes that longer agreements provide an incentive for concessionaires to engage in SFM and is keen to encourage the adoption of longer concession agreements. In 1997, the State Government of Sabah introduced the Sustainable Forest Management License Agreement (SFMLA) which provides the right to 'plant, rehabilitate and harvest forest under principles of SFM for a time period of 100 years in a certain Forest Reserve' of approximately 100,000 hectares (Woon 2002). A total of 15 SFMLA were awarded initially. In Sarawak all agreements are for 25 years.

The Federal Government also encourages state forest authorities to allocate concessions to those with a long-term interest in the timber industry. This policy is to encourage companies to move into downstream activities and processes.

On a similar note, Malaysia places increasing emphasis on reforestation in order to rehabilitate degraded land. Areas of forest land that have been deforested or degraded by inappropriate logging practices, shifting cultivation, repeated burning and other human disturbances will be rehabilitated. Transforming degraded forest lands into rehabilitated forests offers many benefits, but faces serious practical and institutional constraints. Knowledge and experience of rehabilitation are still limited, and its needs are inadequately addressed in forest policy, planning and management.

2.5 Availability of rubberwood

Malaysia has made tremendous progress in utilizing rubberwood since the late seventies. The export value of wooden furniture increased from a mere RM 120 million in 1988 to more than RM 4 billion in 2002. It has been estimated that 80 per cent of the wooden furniture exported from Malaysia is made of rubberwood. Norini *et al.* (2001) reported that there were 290 mills engaged in processing rubberwood logs in 2000 as compared to 128 mills in 1994. With such a rapid growth in this sector, there is now a concern that in the near future there will be a shortage in rubberwood sawn timber supply to meet the industry's demand.

A major factor that gives rise to this concern is the decreasing rate of rubber replanting carried out by smallholders. As rubber trees are generally felled for replanting after 25 years (considered as the economic life span for latex production) the decreasing area replanted with rubber is a major cause of concern. This is further compounded by the preference of planters both at the estate and smallholding level to switch from rubber to oil palm as the latter provides a better return. The total

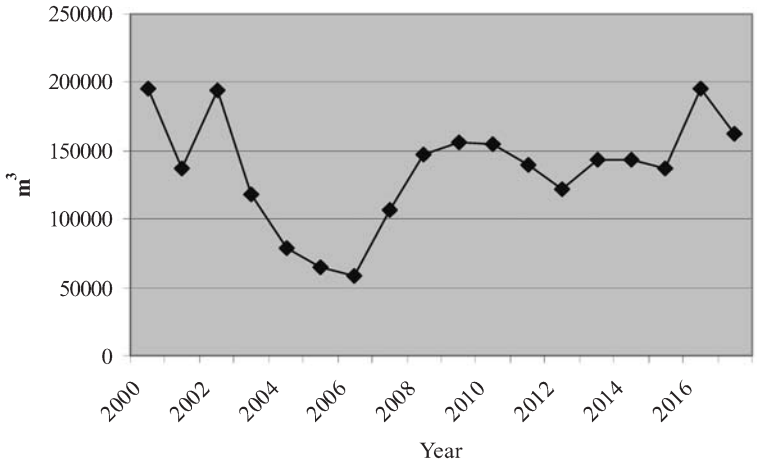

Fig. 1 Potential availability of rubberwood sawn timber, Peninsular Malaysia (2000–2017).
Source : Norini *et al.* (2000).

area planted with rubber in Malaysia decreased from 2.0 million hectares in 1980 to 1.4 million hectares in 2000.

Norini *et al.* (2001) projected the trends of rubberwood sawn timber availability for the period 2000 to 2017 (Figure 1) in Peninsular Malaysia. The trend fluctuates between 0.59 million m^3 to 2.0 million m^3. The lowest level is projected to be in 2005 and 2006, when respectively only 590,000 m^3 and 650,000 m^3 of rubberwood sawn timber will be available for further processing. The projected demand for rubberwood sawn timber is estimated to be 1.59 million m^3 (290 processing mills) for those two years. This means that a shortage will occur and wooden furniture manufacturers, whose staple raw material is rubberwood, will be adversely affected.

The government has started to encourage the private sector to invest in rubber forest plantation. One of the objectives stated in the National Agricultural Policy (NAP, 1992-2010) is to increase the area under rubber through rubber forest plantation. However, Woon and Norini (2000) estimated that to get a 10 per cent return (internal rate of return, IRR) from rubber forest plantation the price of rubberwood logs should be at least RM 168 per m^3. Given the current rate of RM 90 per m^3, investment in rubber forest plantation would not be attractive. The Malaysian Government has taken steps to provide better incentives through the Pioneer Status (PS) and Investment Tax Allowance (ITA) schemes, introduced through the Promotion of Investment Act (PIA) 1986.

Nonetheless, despite the introduction of PS and ITA, rubber forest plantations remain financially unattractive since they only yield a return after 15 years at the earliest. This inherent cash flow issue makes them problematic. Woon (2002) reported that the Malaysian Government is willing to consider giving better incentives to forest plantation investment on a case by case basis. It is too early to assess whether this will be effective.

Another option that could be taken is to encourage the furniture industry to use other alternative species, but this will take time and market acceptance from the major markets is still uncertain.

Currently, most rubber smallholdings are located in isolated areas and are of limited area, making it uneconomical to harvest the rubber trees. Efforts have been made by the Rubber Industry Smallholders Development Authority (RISDA) to organize rubber smallholdings within an area to carry out replantings at the same time. This will provide the economy of scale required for harvesting and transporting the logs to the mills. Furthermore, RISDA has taken steps to set up long term agreements with furniture manufacturers to guarantee a continuous flow of rubberwood log supply.

The Malaysian Government is also looking into developing policy which encourages the industry to use larger rubberwood logs for sawn timber conversion only. The smaller logs or branches (10 cm diameter and below) could be used by Medium Density Fibreboard (MDF) manufacturers. In this way, there will be less competition for the limited supply of large rubberwood logs and thereby help ensure that furniture manufacturers have an adequate supply of raw material.

3 Forest and timber certification

Thang (2002) reported that in mid-1996, a pilot study on timber certification using the MC & I for certifying three FMUs in Peninsular Malaysia was initiated under the Malaysia-Netherlands Joint-Working Group. This was done to enable the 'certified' timber products to enter the Keurhout Hallmark Programme implemented in the Netherlands. SGS (Societe Generale de Surveillance) Malaysia was appointed to undertake the study. Further study was initiated in 1999 when Malaysia adopted the revised MC & I. As of 28th February 2001, a total of 97,838 m^3 of certified sawn timber had been exported to the Dutch market. As of 31st December 2000, a total of 47 companies in Peninsular Malaysia had been awarded Chain-of-Custody Certificates by SGS (Thang, 2002).

Recognizing the need to implement timber certification as a means to encourage and ensure SFM, the Malaysian Government established the Malaysian Timber Certification Council (MTCC) in 1998. The MTCC operates as a non-profit organisation and as an independent national certifying and accrediting body.

In October 2001, the MTCC certification scheme commenced operations using a phased approach. The phased approach provides an avenue for credible scheme a certain time period to meet all the requirements that are stipulated in certain internationally accepted scheme. The current status is that a certification scheme is rejected outright even though only minor requirements are not met. The standard currently used for assessing FMUs are the MC & I developed by the Forestry Department of Peninsular Malaysia. As of 31st December 2002, the MTCC had certified three FMUs (Pahang, Selangor and Terengganu) and issued certificates for Chain-of-Custody to 16 companies in Malaysia (Thang, 2002).

The MTCC is currently in the process of developing a set of standards which is compatible with the Principles and Criteria (P&C) of the Forest Stewardship Council (FSC). In addition, a multi-stakeholder National Steering Committee (NSC) is currently revising the MC & I to make them compatible with the FSC P & C. A National Working Group (NWG) has been established to formulate a standard for submission to the FSC for endorsement (Chew, 2002).

In a recent development (late 2002), the MTCC has been admitted as a member of the Pan-European Forest Certification (PEFCC) Council. MTCC intends to submit its scheme for PEFCC endorsement soon. As the European market is a major market for Malaysian timber products, the application for PEFCC endorsement should help Malaysia maintain or even expand its business in the European market.

On the ASEAN front, Malaysia is pushing for a Pan-ASEAN forest certification scheme. A working group has been established to look into the matter and the working group held it first meeting in late 2002.

4 The wood-based industries

The wood-based industries have developed from a primary processing industry (sawmilling and plywood mills) into a diversified value-added industry (with products including furniture, builder's carpentry and joinery [BCJ] materials and engineered wood products such as medium density fibreboard [MDF] and particleboard).

Rajoo (2002) reported that in 2001 there were a total of 1,099 sawmills, 156 veneer and plywood mills, 14 MDF, 15 particleboard and over 2300 furniture, joinery, moulding and other woodworking plants in Malaysia (Table 1).

4.1 Historical development of the forestry- and forest-based industries

The development of both the forestry- and forest-based industries (FBIs) in Malaysia, started as early as 1900. The early development involved mainly primary activities, such as logging, sawmillling and plywood/veneer production. The basic products, such as sawn timber and plywood/veneer, were mostly consumed locally rather than exported. It was only in 1959 that forestry and FBIs started to expand as the Malaysian Government placed more emphasis on the manufacturing sector.

At that time, sawing in sawmills was mainly carried out with handsaws. According to Ho *et al.* (2000), mechanization of sawmilling took place only in 1932, though handsaws were not fully replaced until after 1946. It was only after the Second World War that band-sawing technology was introduced in Malaysia. Today, the technology in sawmills involves a breakdown saw, with either a semiautomatic or a fully automatic carriage. A team of four, consisting of a *kepala* or chief sawyer, an assistant chief sawyer and two assistants, is the common set-up in

Table 3 Numbers of selected forest-based industries in Peninsular Malaysia.

Industry	P. Malaysia	Sabah	Sarawak	Total
Sawmill	671	182	246	1099
Plywood/veneer mill	52	50	54	156
Moulding plant	166	90*	23	279
Furniture, joinery & other plants	1687	-	336	2023
Particleboard plant	10	1	4	15
Wood cement board plant	3	-	2	5
MDF plant	10	1	3	14
Woodchip mill	1	2	4	7
Parquet factory	26	1	n.a.	27
Picture frame factory	25	1	n.a.	26
Pre-fabricated house manufacturer	10	n.a.	n.a.	10
Pulp & paper mill	-	1	-	1
Match factory	4	1	2	7
Pencil manufacturer	3	-	n.a.	3
Kiln drying plant	122	56	47	225
Wood preservation plant	102	23	25	150

Source: Rajoo (2002). Note: n.a. = data not available.
* includes furniture, joinery and other wood working plants.

Table 2 Number of selected forest-based industries in Peninsular Malaysia.

Industry	1980	1994	1995
Sawmilling	603	711	711
Plywood/veneer	36	49	48
Moulding	103	105	124
Furniture*	55	446	485
Parquet flooring	11	25	25
Medium density fibreboard	n.a	5	6

Source: Ministry of Primary Industries, Malaysia (1992, 1998). *Export-oriented companies.
Note: n.a. = data not available.

small sawmills, especially in Peninsular Malaysia. However, big sawmills with high paid-up capital can now afford to have a semi-automatic carriage or even fully automatic sawing, operated by a single operator (Norini, 2000). Because of the timber-supply problem, an automatic sawing process is more commonly found in Sabah and Sarawak than in Peninsular Malaysia.

4.2 Development before and after the Industrial Master Plan 1 (1986-1995) and Plan 2 (1996-2005)

To ensure the development of the manufacturing sector in general and of forestry and FBIs in particular, the Investment Incentive Act was introduced in 1968. Under this act, all sectors involved with manufacturing activities were given a variety of incentives, such as export allowances, investment tax credits and others. This method of industrial extension was called the aggressive export strategy (AES). Another important strategy, termed Free Zones (FZ), was introduced in 1971. It was during this period that plywood/veneer mills started to expand. Official records indicate that plywood/veneer mills were established in the early 1960s and Ho *et al.* (2000) claim that plywood/veneer mills today, especially in Peninsular Malaysia, are outdated in terms of technology, *i.e.* they are equipped with machinery suitable only for peeling large-diameter logs. In addition, veneer grading, sorting and patching are done manually (Ho *et al.* 2000). On the other hand, moulding mills were predominantly established in or after 1965 and underwent expansion in the 1980s. This stage of development, *i.e.* the introduction of new plants such as moulding mills, indirectly indicates a shift from primary to secondary processing.

With regard to furniture, a small number of family owned companies are known to have started their operations in the 1980s. These furniture mills were small and employed fewer than 50 workers. Unlike other FBIs, such as plywood/veneer mills, output from furniture makers at that time was tailored more for domestic consumption. It was only in 1994 that furniture mills started to make an impact when, for the first time in Malaysian history, their export earnings climbed as high as RM 1.4 billion. The excellent performance of the furniture mills in the last two decades has been mainly due to the successful introduction of rubberwood as a raw material. The acceptance of rubberwood furniture worldwide further encouraged interest in planting rubber trees as a forest plantation species.

The particleboard and medium-density fibreboard (MDF) industries have also made substantial contributions in terms of export earnings lately. The two strategies mentioned in the preceding paragraphs have attracted many large multinational companies to establish export-oriented operations in Malaysia.

4.3 Industrial Master Plan 1 (1986-1995)

Another package of incentives, instituted through the Promotion Investment Act (PIA), was introduced in 1986. Under this act, foreign investors were allowed to have up to a 100 per cent share of equity in any newly established company (Malaysian Industrial Development Authority 1986). To further encourage the development of the manufacturing industries in general, the Industrial Master Plan 1 (IMP1) was introduced, which covered the period 1986 to 1995. Twelve sub-sectors were identified as having potential for development. These include seven resource-based industries (rubber products, palm-oil products, food processing, wood-based/forest-based products, chemicals and petrochemicals, nonferrous metal products and nonmetallic mineral products) and five non-resource-based industries (electrical and electronics, transport equipment, machinery and engineering products, iron and steel and textiles/apparel).

4.3.1 Number of FBIs under IMP1

Table 2 indicates that the number of secondary and tertiary processing mills, especially in furniture production, has increased over the past two decades. Stated differently, it is no exaggeration to say that the strategies contained in IMP1 have successfully changed the structure of the Malaysian economy from producing solely primary products to producing high value-added products.

4.4 The Industrial Master Plan 2 (1996-2005)

A slightly different approach has been adopted in the IMP2. In fact, the so-called cluster approach of the IMP 2 is seen as another step towards strengthening the growth not only of the manufacturing sector but also of existing supporting industries, including the services sector. Indeed, along with the manufacturing sector, the services sector has been identified as the next engine of growth for the Malaysian economy.

4.4.1 Number of FBIs under the IMP2

The log-deficit situation does not seem to have had a substantial impact on the FBIs in Peninsular Malaysia from the perspective of the number of registered mills, excluding sawmills. In fact, the number of plywood/veneer mills decreased by only two mills between 1998 and 2000, whereas the number of sawmills declined from 711 in 1997 to 667 in 2000 (Table 3). The number of sawmills is expected to have decreased further to 660 in 2001 (FDPM, 2001). Of the 667 mills registered in 2000, only 499 were in operation, *i.e.* more than 25 per cent had to cease their operations because of the problem of timber supply.

In fact, positive developments in terms of the numbers of FBIs have been observed for the last 17 years, especially for industries like furniture, moulding and MDF. For instance, the number of export-oriented furniture factories increased from a mere 55 in 1980 to 530 in 1996, an almost nine-fold increase. A similar development was observed for other industries, such as parquet and MDF, though their numbers do not show such dramatic increases.

4.5 Foreign direct investment

Table 4 indicates the importance of foreign direct investment (FDI) in supporting the development of the FBIs for the last 10 years. Clearly, the share of FDI in FBI projects over the 10-year period was as substantial as local investment. Of the RM 13.1 billion capital investment over the last 10 years, the FDI share was RM 4.9 billion, *i.e.* approximately 37 per cent of the total investment. Probably what interested the public most during the ten-year period since 1990, was the potential employment created by the newly approved projects. With a total of 937 projects approved, the potential employment created was 178,760 jobs (Table 4).

The largest investment over the last 10 years has been in the plywood/veneer industry (Table 5). This is followed by moulding and furniture, which have individually attracted total investments of RM 2 billion and almost RM 2 billion, respectively. The plywood/veneer industry, in the context of investment, includes both hardboard and particleboard mills. Even though these two types of mill are treated together, their outputs are not measurably different from that of plywood/veneer as a whole. On the other hand, moulding includes planing mills, window and door mills and joinery works,

Table 3 Numbers of selected forest-based industries in Peninsular Malaysia.

Industry	1996	1997	1998	1999	2000
Sawmilling	712	711	708	672	667
Plywood/veneer	46	50	50	50	48
Moulding	136	141	149	150	153
Furniture*	530	n.a	n.a	n.a	2,801
Parquet flooring	26	n.a	n.a	n.a	26
Medium density fibreboard	6	7	7	7	8

Source: Ministry of Primary Industries, Malaysia (1992, 1998). *Export-oriented companies.
Note: n.a. = data not available.

Table 4 Total approved FBI projects in Malaysia, 1990-August 2000.

Year	Number of projects	Potential employment (no. of jobs)	Local investment (RM 000)	Foreign investment (RM 000)	Total capital investment (RM 000)
1990	113	23,981	1,133,788	651,330	1,785,118
1991	125	32,196	672,173	828,352	1,500,525
1992	64	12,809	380,275	317,816	698,091
1993	69	11,580	382,823	316,888	699,211
1994	105	23,224	1,541,534	957,205	2,498,736
1995	117	27,998	1,202,709	852,403	2,055,112
1996	78	11,267	754,706	214,425	969,131
1997	65	8,473	549,189	135,950	730,139
1998	89	15,221	931,403	350,309	1,281,712
1999	77	7,769	315,583	112,288	427,871
2000*	34	3,322	273,731	180,736	454,467
Total	937	178,760	8,182,912	4,917,703	13,100,615

Source: MIDA (2000). *Data for the year 2000 is up until the end of August only.

Table 5 Breakdown of approved FBI projects in Malaysia, 1990-August 2000.

Industry	Number of projects approved	Potential employment (no. of jobs)	Local investment (RM 000)	Foreign Investment (RM 000)	Total Investment (RM 000)
Plywood/veneer	296	92,941	5,452,593	3,489,153	8,941,746
Moulding	221	28,609	1,487,809	562,011	2,049,820
Other related industries	25	2,474	69,426	65,656	135,082
Furniture	395	54,736	1,173,085	778,780	1,951,865
Total	937	178,760	8,182,912	4,917,703	13,100,615

Source: MIDA (2000). Note: Data for the year 2000 is up until the end of August only.

Table 6 Export of major timber products by Malaysia in 2001.

Product	Volume (million m^3)	RM million - fob
Logs	5.04	1,546.70
Sawn timber	2.56	2,488.60
Plywood	3.52	3,517.49
Veneer	0.66	481.68
Mouldings	n.a.	640.74
Woodchips, Chipboard & Particleboard	0.28	159.27
MDF	1.06	873.25
Wooden Frame & BJC	n.a.	777.63
Wooden furniture	n.a.	3,778.65
Rattan furniture	n.a.	69.41
Total	13.12	14,333.42

Source: MTIB (2002). Note: n.a. = data not available.
fob – free on board

whereas other related industries include prefabricated wooden houses, other wood products, wooden and cane containers and small cane ware, and wood and cork products not classified elsewhere. A high total investment in the furniture industry indicates a positive move towards more high value-added products.

5 The timber trade

Malaysia has benefited significantly from forestry activities, particularly in terms of income generation and employment creation. In 2001, the export value of wood and wood-based products was RM 14.3 billion (Table 6) or 4.3 per cent of the country's total export value (3.4 per cent of GDP). In the same year, employment created in the forestry sector in Malaysia totaled 337,000 jobs (Ministry of Primary Industries, Malaysia, 2001).

5.1 Export of logs and veneer logs

The decrease in export earnings in 2001 was partially due to the lower volume of logs extracted from the forest. Table 7 indicates that log production over the past twelve years has decreased as the area opened up for logging activity has declined. For example, Peninsular Malaysia has scaled down log production from 12.8 million m^3 in 1990 to 5 million m^3 in the five years since 1998. A similar trend of log production is also observed for the state of Sabah.

Malaysia is the world's third largest producer of non-coniferous (NC) logs and veneer logs in the Asian region, after China and Indonesia. FAO statistics indicate that the production of logs and veneer logs from Malaysia was 34 million m^3 in 1996 and declined to 20 million m^3 in 1998 and 1999 (Table 8). The production figures recorded by the Ministry of Primary Industries, Malaysia, differ from the statistics published by FAO because the former quoted figures for industrial round wood in the rough, whereas the latter refer only to logs and veneer logs. The production of logs and veneer logs from China was almost 22.2 million m^3 in 1996 and 19.9 million m^3 in 1999 (FAO, 2001a). Among the Association of the South-East Asian Nations (ASEAN), Malaysia is almost on a par with Indonesia in terms of production, whereas the other nations are now net importers.

Malaysia is one of the three leading world exporters of industrial round wood in the rough, the other two being Gabon and Papua New Guinea. The term *industrial round wood in the rough* includes logs and veneer logs, pulpwood round and split, and other industrial round wood. In 1998 alone, Malaysia exported more than 5.5 million m^3 (25.8 per cent of the total production) and

Table 7 Production of logs in Malaysia, 1990–2000 (in thousands of m^3).

Year	Peninsular Malaysia	Sabah	Sarawak	Malaysia
1990	12,818	8,443	18,838	40,099
1991	12,285	8,163	19,411	39,859
1992	13,031	11,633	18,848	43,512
1993	11,234	9,300	16,735	37,269
1994	11,389	7,965	16,318	35,672
1995	9,030	6,520	16,892	31,842
1996	8,418	5,638	16,038	30,094
1997	7,379	6,959	16,823	31,161
1998	5,100	5,265	11,307	21,672
1999	5,300	3,380	13,096	21,776
2000	5,072	3,729	14,274	23,075

Source: Ministry of Primary Industries, Malaysia (1999, 2000, 2001).

Table 8 World production of logs and veneer logs (NC) (in million m^3).

Region	1996	1997	1998	1999
World	316.1	310.5	291.2	293.8
Africa	19.0	19.8	19.5	19.2
Malaysia	34.0	29.7	20.0	20.0
Indonesia	32.3	32.3	21.8	24.9
Singapore	nil	nil	Nil	nil
Thailand	0	0.1	0.1	0.1
Philippines	0.3	0.2	0.5	0.5
Brunei Darussalam	0.2	0.2	0.2	0.2
Viet Nam	2.2	2.2	2.2	2.2
Cambodia	0.4	0.4	0.4	0.4
Laos	0.4	0.4	0.3	0.4
Myanmar	1.7	2	2.3	2.3
Subtotal ASEAN	71.5	67.5	47.8	51
China	22.2	21.1	21.3	19.9
Other Asia	22.1	22.1	22.1	22.3
Central America	84.8	85.9	86.5	87.1
S. America	41.3	39.6	38.4	38.7
Europe	46.6	46.6	48.2	48.1
Oceania	8.6	7.9	7.4	7.5

Source: FAO (2001a). Note: totals may not add up exactly because of rounding off.

Table 9 The three leading producing and consuming countries of industrial round wood in the rough (NC), 1998 (in thousands of m^3).

	Major exporter				
Major importer	Malaysia	Gabon	Papua New Guinea	Others	Total
China	2,101	579	268	1,219	4,167
Japan	2,225	51	910	241	3,427
India	741	10	0	649	1,400
Others	516	1,133	435	3,346	5,430
Total	5,583	1,773	1,613	5,455	14,424

Source: FAO (2001a).

Table 10 The three leading producing and consuming countries of industrial round wood in the rough (NC), 1999 (in thousands of m^3).

	Major exporter				
Major importer	Malaysia	Gabon	Papua New Guinea	Others	Total
China	3,029	935	454	1,013	5,431
Japan	2,236	25	943	322	3,526
India	840	0	26	593	1,459
Others	893	1,378	560	3,365	6,196
Total	6,998	2,338	1,983	5,293	16,612

Source: FAO (2001a).

Table 11 Production of sawn timber in Malaysia, 1990–2000 (in thousands of m^3).

Year	P. Malaysia	Sabah	Sarawak	Malaysia
1990	6,513	1,910	733	9,156
1991	5,610	2,403	913	8,926
1992	5,542	2,797	1,119	9,458
1993	4,927	2,855	1,442	9,224
1994	4,733	2,248	1,722	8,703
1995	5,593	1,820	1,762	9,175
1996	4,441	1,510	1,542	7,493
1997	4,139	1,415	1,622	7,176
1998	2,796	1,014	1,281	5,091
1999	3,229	796	1,191	4,420
2000	3,299	806	1,451	5,556

Source: Ministry of Primary Industries, Malaysia (1999, 2001).

almost 7 million m^3 in 1999 (32.1 per cent of the total production) of industrial round wood in the rough (Table 9 and Table 10). Of the 5.5 million m^3 exported, more than 5 million m^3 was from Sarawak and the balance of 577 thousand m^3 was from Sabah (MTC, 2002). This indirectly indicates that exporting primary products such as logs is still an important activity in those two States. A similar situation was also observed in 1999.

The volume of industrial round wood in the rough exported from Malaysia formed more than 38.7 per cent and 42.1 per cent of the total world export in 1998 and 1999, respectively (Table 9). Hence, Malaysia's share of the world export market of industrial round wood in the rough has been growing yearly.

China, Japan and India are the major importers of industrial round wood. China imported more than 4.1 million m^3 in 1998 and 5.4 million m^3 in 1999 (Tables 9 and 10). On the other hand, Japan imported more than 3.4 million m^3 in 1998 and 3.5 million m^3 in 1999. The total volume of imports by China, Japan and India constituted about 62.4 per cent and 62.7 per cent of the total industrial round wood in the rough consumed by the world in 1998 and 1999, respectively.

Considering the production of industrial round wood in the rough from the perspective of total forest area availability in these three countries, it is unlikely that Malaysia can sustain its role as the world's leading exporter. Gabon, the second leading producer of round wood in the rough, not only has a larger forest area but also a greater volume of timber per hectare of forest. Gabon had a total forest area of 21.8 million hectares and a wood volume of 128 m^3 per hectare in 2000, whereas Papua New Guinea had 30.6 million hectares of forests and a wood volume of 34 m^3 per hectare that same year (FAO, 2001b).

5.2 Export of sawn timber

Table 11 indicates that the production of sawn timber in Malaysia has declined throughout the nineties from more than 9.1 million m^3 in 1990, to around 4 to 5 million m^3 from 1998 onwards. The volume of production is closely related to the amount of logs processed, as well as the recovery rate of individual species.

Table 12 gives the amount of sawn timber allocated for domestic processing in the period 1999 to 2000. In earlier years, more than 50 per cent of the sawn timber produced was destined for export. It was only in 1996 that the proportion of export relative to local consumption began to change. From 57.7 per cent in 1990, the percentage of export declined to 48.8 per cent and 41.9 per cent in 1996 and 1997, respectively (Table 12). Nonetheless, such a high dependence on the export of primary products indirectly indicates that the FBIs in Malaysia are still doing a lot of primary processing.

On the international front, Malaysia was ahead of Indonesia in terms of sawn timber production between 1996 and 1999 (Table 13). Malaysia holds a reasonable

Table 12 Production versus export of sawn timber in Malaysia, 1990–2000.

Year	Production (000 m^3)[3)]	Export (000 m^3)	Export (RM million)	Surplus (000 m^3)
1990	9,156	5,283	3,071	3,873
1991	8,926	4,932	2,901	3,994
1992	9,458	5,417	3,409	4,041
1993	9,224	5,371	4,422	3,853
1994	8,703	4,560	4,140	4,143
1995	9,175	4,796	3,626	4,379
1996	7,493	3,660	3,048	3,833
1997	7,176	3,007	2,745	4,169
1998	5,091	2,703	2,556	2,388
1999	4,420	2,788	2,820	1,632
2000	5,556	2,901	3,067	2,655

Source: Ministry of Primary Industries, Malaysia (1999, 2000, 2001).

Table 13 World production of sawn timber (NC) (in million m^3).

Region	1996	1997	1998	1999
World	53.1	56.6	49.2	48.8
Africa	0.5	0.6	0.8	0.8
Malaysia	4.1	4.5	3.9	3.9
Indonesia	9.6	9.6	7.1	4.5
Singapore	0.3	0.3	0.3	0.3
Thailand	0.2	0	0.1	0.1
Philippines	0.6	0.5	0.2	0.2
Brunei Darussalam	nil	nil	nil	nil
Viet Nam	0.1	0.1	0.1	0.1
Cambodia	0.1	0	0.1	0.1
Laos	0.2	0.2	0.2	0.2
Myanmar	0	0	0	0
Subtotal ASEAN	15.2	15.2	12	9.4
Other Asia	11.3	14.2	10.6	12.6
N. Central America	18.9	19.4	17.6	17.8
S. America	2.2	2.1	2.1	2.1
Europe	4.6	4.7	5.7	5.6
Oceania	0.4	0.4	0.4	0.5

Source: FAO (2001a). Note: totals may not add up exactly because of rounding off.

Table 14 The three leading sawn timber-producing and consuming countries (NC) in 1998.

	Major exporter (000 m^3)				
Major importer	Indonesia	Malaysia	China	Others	Total
Japan	2,341	1,247	38	312	3,938
China	1,197	1,342	0	120	2,659
USA	961	356	64	674	2,055
Others	2,925	686	738	5,305	9,654
Total	7,424	3,631	840	6,411	18,306

Source: FAO (2001a).

share of the total world export of sawn timber, although lately the percentage has declined somewhat. Besides Malaysia and Indonesia, the production of sawn timber from other ASEAN member countries does not have a significant impact on the world trade.

Table 14 and Table 15 indicate that Malaysia was one of the leading exporters of sawn timber (NC), besides the USA and Canada, in 1998 and 1999. On the other hand, countries like China, Italy and the USA are classified as major world importers of sawn timber. For instance, China imported more than 2.5 million m^3 and slightly more than 2.0 million m^3 in 1998 and 1999 respectively, whereas Italy, as the second most important consumer of sawn timber, imported about 2.0 million m^3 and 390,000 m^3 in 1998 and 1999, respectively.

5.3 Export of plywood/veneer

Like other timber products, the production of plywood/veneer from Malaysia has experienced both upward and downward trends. In the early 1990s, Penin-

Table 15 The three leading sawn timber-producing and consuming countries (NC) in 1999.

	Major exporter (000 m^3)				
Major importer	**Malaysia**	**USA**	**Canada**	**Others**	**Total**
China	619	381	19	1,019	2,038
Italy	29	135	31	195	390
USA	43	-	716	759	1,518
Others	2,097	2,274	573	12,610	17,554
Total	2,788	2,790	1,339	14,583	21,500

Source: FAO (2001a).

Table 16 Production of plywood/veneer in Malaysia, 1990–2000 (in m^3).

Year	P. Malaysia	Sabah	Sarawak	Malaysia
1990	1,206,704	464,812	299,866	1,971,382
1991	1,227,064	674,496	397,029	2,298,589
1992	1,368,380	1,238,061	758,144	3,364,585
1993	1,344,997	2,338,528	1,204,941	4,888,466
1994	1,201,750	2,414,373	2,020,054	5,636,177
1995	955,725	2,368,703	2,679,254	6,003,682
1996	1,085,467	2,175,879	1,680,444	4,941,790
1997	1,055,310	1,846,088	2,709,900	5,611,298
1998	657,506	1,311,902	2,694,000	4,663,408
1999	770,743	1,291,022	3,068,775	5,130,540
2000	758,484	1,513,092	3,219,208	5,490,784

Source: Ministry of Primary Industries, Malaysia (1999, 2000, 2001).

Table 17 World production of plywood (in million m^3).

Region	1996	1997	1998	1999
World	53.1	56.6	49.2	48.8
Africa	0.5	0.6	0.8	0.8
Malaysia	4.1	4.5	3.9	3.9
Indonesia	9.6	9.6	7.1	4.5
Singapore	0.3	0.3	0.3	0.3
Thailand	0.2	0	0.1	0.1
Philippines	0.6	0.5	0.2	0.2
Brunei Darussalam	nil	nil	nil	nil
Viet Nam	0.1	0.1	0.1	0.1
Cambodia	0.1	0	0.1	0.1
Laos	0.2	0.2	0.2	0.2
Myanmar	0	0	0	0
Subtotal ASEAN	15.2	15.2	12	9.4
Other Asia	11.3	14.2	10.6	12.6
N. Central America	18.9	19.4	17.6	17.8
S. America	2.2	2.1	2.1	2.1
Europe	4.6	4.7	5.7	5.6
Oceania	0.4	0.4	0.4	0.5

Source: FAO (2001a). Note: totals may not add up exactly because of rounding off.

sular Malaysia took the lead with a production level of more than 1.36 million m^3 (40.7 per cent of the total production) in 1992 (Table 16). Sabah and Sarawak followed with 1.2 million m^3 and 758,000 m^3 in 1992, respectively.

Sabah and Sarawak soon became important producers as timber resources became scarce in the Peninsula. With a plentiful timber resource, Sarawak, which was once a minor producer, has exported the highest volume of plywood/veneer since 1997. If the production of plywood and veneer are treated individually, the share of both plywood and veneer have shown upward and downward trends. For instance, the share of plywood production was 78.7 per cent in 1990, compared to 61.4 per cent and 80 per cent in 1995 and 2000, respectively (Malaysia, Ministry of Primary Industries 2001). Of the 4.4 million m^3 of plywood produced in 2000, Sarawak accounted for some 2.8 million m^3, whereas production in Sabah and Peninsular Malaysia was 1 million m^3 and 571,000 m^3, respectively.

Indonesia was the largest producer, with more than 4.5 million m^3 of plywood production in 1999, followed closely by Malaysia with 3.9 million m^3 of plywood production that same year (Table 17). The world production of

Table 18 The three leading plywood-producing and consuming countries in 1998.

	Major exporter (000 m^3)				
Major importer	**Indonesia**	**Malaysia**	**China**	**Others**	**Total**
Japan	2,341	1,247	38	312	3,938
China	1,197	1,342	0	120	2,659
USA	961	356	64	674	2,055
Others	2,925	686	738	5,305	9,654
Total	7,424	3,631	840	6,411	18,306

Source: FAO (2001a).

Table 19 The three leading plywood-producing and consuming countries in 1999.

	Major exporter (000 m^3)				
Major importer	**Indonesia**	**Malaysia**	**China**	**Others**	**Total**
Japan	2,789	1,662	45	389	4,885
China	821	461	52	1,206	2,540
USA	973	479	0	157	1,609
Others	3,185	738	648	5,414	9,985
Total	7,768	3,340	745	7,166	19,019

Source: FAO (2001a).

Table 20 Production of mouldings in Malaysia, 1990–2000 (in m^3).

Year	**P. Malaysia**	**Sabah**	**Sarawak**	**Malaysia**
1990	178,036	n.a	48,015	226,051
1991	205,139	166,200	43,907	415,246
1992	179,313	219,690	34,016	433,019
1993	204,606	252,155	34,289	491,050
1994	174,375	289,355	35,514	499,244
1995	277,275	340,171	25,086	642,532
1996	275,140	313,650	22,444	661,234
1997	354,602	346,160	42,180	714,942
1998	321,948	282,762	39,902	644,612
1999	316,303	294,365	25,770	633,438
2000	416,955	275,607	22,641	715,203

Source: Ministry of Primary Industries, Malaysia (1999, 2000, 2001).
Note: n.a. = data not available.

plywood has decreased since 1998. The decline in plywood production has been attributed mainly to the reduction in supply from Indonesia, from 9.6 million m^3 in 1997 to 4.5 million m^3 in 1999 - a reduction of more than 50 per cent. The Asian economic turmoil of late 1997 has in a way affected all of the ASEAN producers because buyers of plywood were mainly from Asia. A similar situation is true for Malaysia, although the reduction in supply was somewhat smaller.

Besides Indonesia and Malaysia, China was also categorized as one of the major world exporters of plywood in 1998 and 1999. Of the total 18.3 million m^3 of plywood exported in 1998, Indonesia contributed about 40.6 per cent, and Malaysia and China individually contributed 19.8 per cent and almost 4.6 per cent, respectively (Table 18). The trend for exporters was similar for 1999, except that the percentage share of particular nations declined (Table 19). The FAO (2001a) listed Japan, China and the USA as major importers of plywood in 1998 and 1999. Besides being leading world producers, China and the USA were also categorized as leading importers. However, Japan imported more than 3.9 million m^3 in 1998 and almost 4.9 million m^3 in 1999 to support growing domestic demand (Tables 18 and Table 19). Of the total volume of plywood produced in Malaysia, only 7.7 per cent and 15.4 per cent were consumed locally in 1998 and 1999, respectively.

5.4 Export of mouldings

The moulding industry is doing reasonably well compared with other FBIs, even though the production is not as substantial as that of sawn timber or plywood/veneer. The production of mouldings continued to increase throughout the 1990s. In fact, the moulding industry experienced a record high production of more than 715,000 m^3 in 2000 (Ministry of Primary Industries, Malaysia 2001). Of this total, about 417,000 m^3 came from Peninsular Malaysia ; the balance was made up of almost 276,000 m^3 and 23,000 m^3 from Sabah and Sarawak, respectively (Table 20).

Export earnings recorded in Malaysian Ringgit for the past 10 years (*i.e.* from 1990 to 2000) indicated that ex-

Table 21 Export of mouldings from Malaysia, 1990–2000.

Year	(RM 000)
1990	487,810
1991	543,312
1992	712,556
1993	585,045
1994	633,461
1995	618,200
1996	671,579
1997	782,517
1998	745,213
1999	824,945
2000	894,900

Source: Ministry of Primary Industries, Malaysia (1999, 2000, 2001).

Table 22 Export of wooden and rattan furniture from Malaysia, 1990–2000 (RM).

Year	Wooden furniture	Rattan furniture
1990	214,661,922	54,834,096
1991	403,329,314	75,486,611
1992	578,742,419	81,829,983
1993	935,635,396	90,381,024
1994	1,413,367,730	111,543,677
1995	1,673,788,664	91,487,118
1996	2,088,689,700	80,769,930
1997	2,531,016,976	82,470,509
1998	3,246,102,132	86,111,363
1999	3,900,300,000	60,900,000
2000	4,419,000,000	69,700,000

Source: Ministry of Primary Industries, Malaysia (1999, 2000, 2001).

ports are increasing. Export earnings were affected slightly by the economic turmoil in late 1997, declining by 4.7 per cent over 1996. However, the demand for mouldings started to improve by 1999 and 2000, with total export earnings reaching RM 825 million and RM 895 million, respectively (Table 21).

Japan is still the major buyer, followed by the USA and Australia. The value of exports to Japan was almost RM 220 million in 2000. Japan's share is estimated to have increased from 24.6 per cent in 2000 to 30.5 per cent in 2001 (Ministry of Primary Industries, Malaysia, 2001).

5.5 Export of furniture

The development of the furniture industry in Malaysia, especially in the Peninsula, has been largely dependent on the growth in use of rubberwood. Its cream-white color, which is easily stained, has made it readily acceptable in the international market, especially in Japan. With a substantial quantity of rubberwood generated as a by-product of the replanting programme, the furniture and furniture components sector has expanded over the years. However, with a shift in areas planted from rubber to oil palm, coupled with a decrease in the area planted with rubber trees and increasing demands from other users, the deficit situation is expected to be serious in the future (Ismariah and Norini, 1994 ; Norini *et al.*, 2001). Unless some form of regulation as to the use of rubberwood is introduced, the existing competition may force the furniture industry to search for alternative species. The trends of wooden and rattan furniture exports are shown in Table 22.

The USA and Japan are the two most important importers of Malaysian furniture. Together, the two countries imported about 51.7 per cent and 51.1 per cent of the total furniture exported in 1999 and 2000, respectively (Table 23). Individually, the percentage share of the USA dropped by almost 3.3 per cent from 1999 to 2000. The decrease in the USA's demand was due to the marked slowdown in the economy. A similar situation is also discernible with regard to Japan's demand (Table 23).

6 Conclusion

Malaysia has been successful in the development of its forestry and forest-based industries in the last few decades. This success has been guided by a set of well-formulated forest policies and industrial development plans. The commitment towards achieving sustainable forest management (SFM) has lead to the formulation of the Malaysian criteria and indicators (MC & I) and the subsequent establishment of the Malaysian Timber Certification Council (MTCC). Recognizing the important role of the forest in providing environmental and ecological services to mankind, the Malaysian National Policy on Biological Diversity was formulated in 1998. In the near future, most of the natural forests will

Table 23 Export of wooden furniture from Malaysia to major destinations (RM million).

	1982		1998		1999		2000	
Country	RM	%	RM	%	RM	%	RM	%
U.S.A.	8.31	55.2	1,269.63	39.1	1,452.17	37.2	1,494.96	33.8
Australia	3.34	22.2	169.04	5.2	267.41	6.9	305.80	6.9
Japan	0.25	1.7	508.99	15.7	564.83	14.5	763.24	17.3
Canada	0.42	2.8	88.68	2.7	94.76	2.4	101.70	2.3
Singapore	1.27	8.4	279.16	8.6	342.41	8.8	329.69	7.5
U.K.	0.58	3.9	213.82	6.6	336.80	8.6	408.45	9.2
Sub-total	**14.17**	**94.3**	**2.529.35**	**77.9**	**3,058.38**	**78.4**	**3,403.84**	**77.0**
Others	0.87	5.8	716.78	22.1	841.88	21.6	1,014.15	23.0
Total	**15.04**	**100.0**	**3,246.13**	**100.0**	**3,900.26**	**100.0**	**4,417.99**	**100.0**

Source: Ministry of Primary Industries, Malaysia (2000, 2001).

be managed for their environmental and ecological services (such as for water, soil erosion control, wildlife conservation and others).

Raw material supply for the wood-based industries will be produced from forest plantations and agricultural waste products derived from the plantation sector (e.g. oil palm trunks, empty fruit bunches). To encourage the development of forest plantations, the government is reviewing the effectiveness of the current fiscal incentive package given to investors. The trend will increasingly be towards policies that are friendly to the environmental and ecological functions of the forest.

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Trends in Forest Policy of the Philippines

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Abstract : Historical accounts of forest use in the Philippines reveal how massive deforestation has depleted the once lush tropical rainforests of the country. A century of plunder of the forest resource can be traced to factors such as conversion of forest to agricultural land, commercial logging and the pressures of population growth (Kummer 1992 ; Cruz 2000). However, "one important thread ... that [runs] through most of these realities [is] power politics : the influence of political power and vested interests on forest management policies and decisions as well as on their implementation" (Vitug 2000).

In order to address the decline of the forest resource, policy reform has been instituted, as has a shift in the direction of forest management, particularly since the end of dictatorial rule under Marcos (Pulhin 1997 ; Sabban 1997). Forest policy in the Philippines has subsequently become known for its active pursuit of people-centered sustainable forest development (Utting 2000).

This paper traces the evolution of forest policy in the Philippines from the period of Spanish rule up to the present day. It highlights the trend from the highly regulatory, centrally controlled and industry-biased forest policy that was characteristic of the colonial period up until the end of the 1970s, towards a more decentralized, participatory and people-oriented approach that has typified the direction of policy implemented over the last two decades. It also discusses the different actors involved in policy-making and their roles in determining the course of current forest policy. A brief analysis of the current issues pertinent to forest policy in the Philippines, especially those that relate to participatory forestry, is also presented. The paper concludes by pointing out that reform in the policy process has to be accompanied by a corresponding shift in power if forest policies are to be more responsive to the needs of the local people whose lives are dependent on the forest for survival.

Key words : Forest policy, Philippine forests, community-based forest management, participatory forestry, policy actors, policy process, shift in power.

1 Introduction

When Spanish colonizers first landed in the Philippines in 1521, approximately 27 million hectares of forested land existed across the archipelago, accounting for 90 per cent of the total land area of 30 million hectares. However, by the year 1900 forest cover had fallen to 70 per cent (a total of 21 million hectares), and by 1950 the figure stood at 49.1 per cent. It is estimated that over this period about 10 million hectares of forest were lost, averaging at 200,000 hectares destroyed per year (Sajise 1998 ; Borlagdan, Guiang and Pulhin 2001). Exploitative forest practices continued in the post-independence era following the Second World War, with records showing an annual rate of deforestation as high as 172,000 hectares from the 1950s through to 1973 (Boado 1988). However, forest decline was most blatant under the Marcos regime, placing the Philippines at the top of the list of countries with the highest deforestation rates within the Asia-Pacific region (Vitug 2000).

The dark past of forest use in the Philippines still haunts the country today. Forests have disappeared altogether in many places, and the remaining fragments are concentrated in only a few regions, particularly Regions 2, 4, 10 and 11. To make matters worst, more than 20 million Filipinos occupy the uplands, and nearly half of this population is entirely dependent on the forest resource which remains in these areas. In addition, these groups are characterized by an annual population growth rate of 2.8 per cent (Sajise 1998), which is 0.5 per cent higher than the country's average of 2.3 per cent.

The 1997 data on land classification show that 15.88 million hectares of the country's total land area are classified as forest land. Of this figure, about 15 million hectares (94 per cent) have been classified into various categories, while the remaining 0.88 million hectares remain unclassified (Forest Management Bureau 1998).

In contrast, 1998 forestry statistics place the actual forest cover at 5.4 million hectares, comprising roughly 18 per cent of the total land area (Table 1). Of this total, 3.5 million hectares (66 per cent) is classified as dipterocarp forest, of which old growth accounts for 27 per cent (805,000 hectares), the remaining 77 per cent (2.7 million hectares) being made up of residual forest. In addition, pine forests are estimated at 228,000 hectares, whereas mossy, submarginal and mangrove forests comprise 1.04 million, 475,000 and 112,000 hectares respectively (Forest Management Bureau 1998).

The forests of the Philippines are highly diverse (Table 2), as are the people and cultures that depend on them for survival (Malayang 2001). Poffenberger (2000) notes that significant losses in forest cover over the last century have affected over 2 million plant species and

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Table 1 Status of forests in the Philippines, 1997 : forest area (hectares) by region.

Forest type	Luzon	Visayas	Mindanao	Total
Dipterocarp	1,843,026	306,100	1,386,891	3,536,017
Old Growth	559,700	35,400	209,800	804,900
Residual	1,283,326	270,700	1,177,091	2,731,117
Pine	227,900	0	0	227,900
Closed	123,900	0	0	123,900
Open	104,000	0	0	104,000
Submarginal	461,400	10,800	2,900	475,100
Mossy	540,400	29,800	470,100	1,040,300
Mangrove	32,000	5,100	75,300	112,400
Total	3,104,726	351,800	1,935,191	5,391,717

Source: Forest Management Bureau (1998)

Table 2 Forest types of the Philippines.

Type	Elevation (masl)	Dominant Plants	Distribution
Lowland evergreen rainforest	0-100	Dipterocarps, palms, legumes, orchids	All over the country
Lower montane forest	1000-1500	*Lithocarpus*, Liliaceous	Cordillera highlands
Upper montane forest	1500-2400	*Agathis*, *Phyllocladus*, *Podocarpus*, *Dacrydium*, *Vaccinium*	Mt. Pulog, Mt. Apo, Mt. Halcon, Mt. Kitangalad
Sub-alpine forest	2400+	*Rhododendron*, *Vaccinium*, *Dacaspermum*	Mt. Apo, Mt. Pulog
Pine forest	1000	*Pinus Insularis*, *Pinus Merkusii*	Benguet, Zambales, Mindoro, C. Cordillera
Forest over limestone	0-900	*Veitchia*, *Dracaena*, *Sterculia*, *Hoya*, orchids	Pangasinan, Bulacan, Samar, Palawan, Cebu
Forest over ultrabasic soil	0-900	*Scaevola*, *Brackenridgia*, *Phyllanthus*, *Execarpus*	Palanan, Palawan, Surigao, Zambales
Semi-deciduous	1000	*Pterocaropus*, *Vitex*, *Garuga*	E. Sierra Madre, Palawan
Beach forest	<10	*Barringtonia*, *Erythrina*, *Acacia*, *Prosopis*, *Casuarina*	All over the country
Mangrove/nipa	<10	*Rhizophoraceae*, *Nypa*	Estuaries, coasts
Freshwater swamp	0-200	Legumes, Cyperaceae, Terminalia, *Metroxylon*	Inland waters

Source: DENR-UNEP 1997:34-35 (Cited from Malayang 2001)

impacted upon more than 100 different indigenous cultures.

Since the Spanish colonial period, forest policy in the Philippines has been continuously revised to suit the changing priorities and needs of the country in relation to the goods and services provided by the forests. Despite this, however, the country's forest resources have continued to dwindle, benefiting the privileged few at the expense of the millions of people living in the uplands who depend on these resources for survival.

The following sections examine the evolution of forest policy in the Philippines in the context of the dwindling forest resource, the key actors and their roles in shaping recent policy initiatives towards community-based forest management, and the current policy-related concerns confronting the forestry sector.

Box 1 Important events of the American colonial period up to the beginning of World War II.

1900

The IGM was converted to the Forestry Bureau under the United States Commonwealth Government, with the issuance of General Order No. 50, amended by General Order No. 92 and further strengthened by the Forestry Act of 1904, which reaffirmed the Regalian Doctrine. In recognition of local needs, however, the Forestry Act allowed residents within or adjacent to forests to cut or remove from timber concession areas products such as timber and firewood solely for domestic purposes. This act had the effect of impressing upon communities the state's ownership of forests and forestlands (Makil 1982).

Although the Spooner's Amendment in 1901 initially delayed logging operations (Sajise & Pacardo 1991), the Philippine Commission continued to issue timber licenses, such that between 1st July 1901 and 30th June 1902, some 662 licenses were issued and 10 companies were allowed to harvest 100,000 cubic feet of timber (Lynch 1987). In addition, General Order No. 92 established an official licensing procedure.

1904

Modern logging techniques were introduced, with the Philippine Commission granting the American Insular Lumber Company a 20-year renewable concession covering 30,000 hectares in Northern Negros (Poffenberger & McGean 1993). Employing technologies from the United States Pacific Northwest, the company produced 30 m^3 of dipterocarp lumber per hour, marketing the product as "Philippine mahogany" on the world market.

1917

The Forest Law of 1917, or Act No. 2711, established communal forests and pastures for the use of communities, though the forest land itself remained under state control. Nonetheless, some of these were later reclassified as alienable and disposable lands for titling (Makil 1982).

1935

With the adoption of the first constitution under the independent Philippine Republic, the Regalian Doctrine became a formal principle of the Philippine government, stipulating that all timberlands belong to the state. This had several implications for the rights of many indigenous peoples, especially with regard to property claims in those areas which were newly classified as timberlands. The formal adoption of the Regalian Doctrine in the 1935 constitution supported the nationalization of Philippine forests, perpetuating the erosion and alienation of indigenous peoples' and local communities' rights to participation in forest management. Many traditional communities with a sense of responsibility to the forests were stripped of any legal right to their land, becoming helpless as they witnessed the commercial exploitation of the forests upon which they depended (IUCN 1996).

1941

Incorporating a revision to the Communal Forest Regulation that had been issued earlier, Forestry Administrative Order No. 14-1 was enacted, empowering the Secretary of Agriculture and Commerce to set aside communal forests, upon the endorsement of the Director of Forestry and the request of municipal councils. Residents of a municipality were granted the privilege to cut, collect and remove free of charge, forest products for their personal use. The issuance of a gratuitous permit by the Bureau of Forestry was needed, however, in order to harvest timber in communal forests. No protection and management responsibility was imposed on municipalities where the communal forests were located.

Source: Borlagdan, Guiang & Pulhin 2001.

2 Evolution of forest policy

For the purpose of this paper, the history of forest policy in the Philippines is divided into three periods : forest policy of the colonial period ; post-colonial exploitation (1946-1970s) ; and a subsequent shift towards the promotion of local participation in forest management (1980s-present).

2-1 Forest policy of the colonial period

During the Spanish era, royal decrees were promulgated which placed the land and natural resources of the Philippines under state control and regulation (Sajise 1998 ; Borlagdan, Guiang and Pulhin 2001). Three main objectives for forest policy can be discerned in these royal decrees : a) the provision of timber for Span-

ish civil and naval needs ; b) the generation of government revenue ; and c) the perpetuation of the forest resource (Boado 1988). With the introduction of this Regalian Doctrine, the colonial authorities changed the public attitude towards a range of forest issues by undermining traditional rights to land ownership as well as other prior claims of indigenous communities to forest resources (Borlagdan, Guiang and Pulhin 2001). Furthermore, rights to forest utilization were granted only to a few "privileged" individuals, which led to the conversion of lowland forest land into agricultural crop plantations (Sajise 1998 ; Borlagdan, Guiang and Pulhin 2001).

Spanish land law weakened customary Filipino systems of land tenure, depriving indigenous peoples of their rights to their land and bypassing communal Indios associations. Instead, the colonial government and the local elite claimed the land for themselves (Poffenberger and McGean 1993 ; Sanvictores 1997).

The Spanish institutionalized the notion of state ownership of forest land and forest resources in the country through the establishment of a forest bureaucracy and its constituent instruments which allocated proprietary rights for forest use (Borlagdan, Guiang and Pulhin 2001). In 1863, the Inspeccion General de Montes (IGM) was created, which governed the utilization of forest resources (Boado 1988 ; Sajise 1998). Though the IGM facilitated the release of forest land to private interests, land had to be thoroughly surveyed, gazetted and officially certified as both alienable and disposable, before it could be sold (Borlagdan, Guiang and Pulhin 2001 ; Boado 1988).

Despite this, forest policy enacted under Spanish rule can be considered as instigating relatively little forest exploitation in the Philippines. Commercial forest exploitation for timber and the generation of government revenue from forest use was limited since the Spanish colonizers had control over only a small portion of the archipelago. Moreover, even though illegal logging and the development of agriculture in forest lands increased at this time, the pressure on forest lands was negligible and the net loss not extensive, since the human population was small (Boado 1988 ; Borlagdan, Guiang and Pulhin 2001).

When the United States took control of the Philippines in 1898, the country, apart from Cebu and Bohol, still had extensive forest cover. The lush forest vegetation which remained in many parts of the country was effectively "waiting to be explored by American capitalists" (Boado 1988), and encouraged the rapid development of the forestry industries. As the government asserted ownership over forests and forest land (Borlagdan, Guiang and Pulhin 2001 ; Boado 1988), American logging companies entered the country and mechanized logging began.

In 1904, the US congress enacted the Forest Act, which aimed "to encourage rational exploitation of the forests by installation of an appropriate regulatory environment to prescribe fees and taxes, and to define parameters for conversion of forest land to agriculture" (Boado 1988 ; Sajise 1998). As such, the act became the decisive regulatory mechanism in Philippine forestry and remained the basis for all elements of forest management until 1975 (Boado 1988). The state forest service, which later became an independent bureau, was organized under its direction, and, concomitantly, a forestry curriculum was established at the college of agriculture within the University of the Philippines, with the subsequent creation of a college of forestry.

Accordingly, the forest industries in the Philippines flourished throughout the American period of rule, and the country became a major exporter of logs and timber on the world market, trading particularly with the United States. Amongst its domestic industries, the lumber industry ranked fourth in terms of production, second in terms employment, and third with regard to monthly payments at this time. The forest industry also generated annual revenue averaging at P2.9 million (Boado 1988 ; Borlagdan, Guiang and Pulhin 2001).

However, the boom in the forest industry also prompted a "steady loss of forest throughout the era of American rule" (Poffenberger 2000). In response to the negative impacts brought about particularly by destructive logging, laws prohibiting kaingin-making and illegal entry into public forests were promulgated. Reforestation projects were also initiated in 1916 to address the deforestation problem. However, these acts proved ineffective and difficult to implement due to the size of the population, a lack of forest rangers, and the enormous size of forest lands (Sajise 1998 ; Boado 1988).

Despite the entry of the Japanese in 1942, all districts and forest stations in occupied territories continued to operate. The country's forest resources were heavily exploited for war purposes, resulting in severe deforestation and a devastated forest industry (Boado 1988).

2-2 From 1946 to the 1970s : forest policy and post-colonial exploitation

The post-colonial period did not bring any major change in the focus of forest policy (Boado 1988) as the government continued to support and even reinforce the system of ownership promoted by the Regalian Doctrine (Sajise 1998 ; Boado 1988). Indeed, the 1946 constitution of the new Philippine Republic asserted that all timberlands belonged to the state (Boado 1988). Hence, "the powers of allocation, classification, regulation, and management of forests and timberlands remained with the government" (Borlagdan, Guiang and Pulhin 2001).

The post-war period was also characterized by increased forest exploitation. Large-scale logging expanded to meet the increasing market demands for timber in Japan and the United States. This generated more revenue for the government, which was greatly needed to help accelerate national rehabilitation and development (Boado 1988 ; Borlagdan, Guiang and Pulhin 2001). However, many politicians and "well-

connected" individuals also found the exploitation of natural resources to be a very lucrative business (Borlagdan, Guiang and Pulhin 2001).

Amidst the highly destructive logging activities in the post-independence era, policy which advocated sustainable forest management and brought about the formation of regulated felling procedures known as the Philippine Selective Logging System (PSLS), was introduced in 1953. The government also adopted the policy of "land for the landless", instituted the Homestead Act, and promoted export and import substitution policies (Borlagdan, Guiang and Pulhin 2001).

When Marcos ascended to the presidency in 1965, deforestation peaked as the number of logging concessionaires grew, the export market became hungrier for logs, and the population increased. Under his regime, the number of timber license agreements (TLAs) granted also soared. As logging rights to vast forest concessions, TLAs were used as a tool to cement political patronage and as a means to strengthen Marcos' political network. That is, forest concessions were dispensed to the president's cronies as a reward for political loyalty (Vitug 2000).

Experiencing eventually the inevitable results of several decades of forest exploitation, the Marcos administration in the 1970s formulated a number of programmes that rallied the involvement of individuals and upland communities in forest management. These included the Forest Occupancy Management (FOM) in 1975, the Family Approach to Reforestation (FAR) in 1976, and Communal Tree Farming (CTF) in 1978. The Programme for Forest Ecosystem Management (PROPEM) was also introduced in 1978, requiring all citizens of the Philippines to plant one tree a month for a period of five years (Boado 1988 ; Sajise 1998 ; Pulhin 1997).

Though these programmes enlisted the public in their capacity to provide labour rather than as partners in forest conservation and development, they did mark the onset of a pioneering period in the establishment of community forestry in the Philippines (Pulhin 1997).

2-3 From the 1980s to the present : a shift in policy towards local participation

Recognizing the potential role of people in the conservation and development of forest resources, Letter of Instruction 1260 was issued in 1982, which consolidated the CTF, FOM and FAR into one comprehensive programme entitled the Integrated Social Forestry Programme (ISFP). This programme accordingly aimed to "democratize the use of public forests and to promote more equitable distribution of the forest bounty". Under the ISFP, stewardship agreements were granted to qualified individuals and communities allowing them to continue occupation and cultivation of upland areas, which they were required to protect and reforest in return. However, the programme has been characterized by weak implementation, low participation of beneficiaries, poor government support, neglect of ancestral domain rights, and uncertainty with respect to sharing of benefits from forest products (Pulhin 1987 ; Sajise 1998).

After the 1986 EDSA revolution, "the concept of decentralization, people's participation and the recognition of the socio-political dimension of forestry moved into the mainstream of policy formation" (Sajise 1998). Since then, various initiatives in the decentralization process have been established, later leading to the development of community-based forest management (Sabban 1997).

Forest policy scenarios implemented since 1986 have tended towards a more people-oriented forestry programme, with more NGO involvement and greater emphasis on the role of local government units. The 1987 National Reforestation Program (NFP) under the Aquino administration promulgated a new reforestation policy offering market incentives and involving communities, families, NGOs and corporations in management initiatives. In addition, a policy decision to ban all logging in old growth forests was implemented in January 1992, shifting the production of timber to residual forests (Sajise 1998 ; Vitug 2000).

Following the demise of dictatorial rule, the new administration established a system of protected areas and recognized the rights of cultural minorities through its two milestone policy instruments (Republic Act No. 7586). With the enactment of the Certificate of Ancestral Land Claims, the rights of indigenous people to their ancestral lands were reasserted. Moreover, the National Integrated Protected Areas System (NIPAS) Act of 1992 encouraged community participation in the delimitation of land boundaries and in the management of protected areas. These two crucial policy instruments underlined the role of public and community involvement in resource management (Sajise 1998).

The issuance of Department Administrative Order (DAO) No. 22 in 1993 by the Department of Environment and Natural Resources (DENR) established the Community Forestry Programme (CFP). Among its objectives were the initiation of community-based forest development and utilization of natural resources, and protection of the remaining primary forests with the help of local communities (Sajise 1998). The programme has recognized that upland poverty alleviation, social justice and equity in resource distribution, and forest sustainability can be achieved through community forestry (Pulhin 1997).

Since the 1990s, community forestry has continued to expand through the various people-oriented forestry programmes and projects implemented throughout the country. These initiatives have also incorporated for the first time mandates that deal with aspects of productive residual forest, existing forest plantation and even old growth forest management (Pulhin 1997 ; Borlagdan, Guiang and Pulhin 2001). The expansion of community forestry in the country has also been facilitated by numerous international funding agencies that have provid-

ed both technical and financial support (Pulhin 1997 ; Vitug 2000).

In 1995, Executive Order (EO) 263 was issued by the then President Fidel V. Ramos, paving the way for the institutionalization of a community-based forest management (CBFM) programme. Governed by the rules and regulations set out in this order, DENR Department Administrative Order No. 96-29 issued in 1996 established CBFM as the national strategy for sustainable forest management and social equity in the Philippine uplands. Various programmes that espouse public participation as decisive elements of forest management have also been integrated, administered and managed under the CBFM (Pulhin 1997 ; Sajise 1998). Among these are the Integrated Social Forestry Programme (ISFP) ; Upland Development Project (UDP) ; Forest Land Management Programme (FLMP) ; Community Forestry Programme (CFP) ; Low Income Upland Communities Project (LIUCP) ; Regional Resources Management Project (RRMP) ; Integrated Rainforest Management Project (IRMP) ; Forestry Sector Project (FSP) ; Coastal Environmental Programme (CEP) ; and Recognition of Ancestral Domains/Claims.

Under the DENR CBFM National Strategic Plan, 9 million hectares of the country's total classified forest land area of 15.8 million hectares have been earmarked for community management by the year 2008. This represents a drastic departure from the preceding forest management approach, which placed 8-10 million hectares of forest land - around one-third of the country's total land area of 30 million hectares - under the control of the social elite, particularly the relatively few timber license operators (Pulhin, 2001).

The immediate task of CBFM is to create and nurture an enabling environment in which people can manage their forest resources in a sustainable way. To achieve this, different key strategies for promoting CBFM have been implemented : the integration of people-oriented forestry projects ; provision of land tenure security ; promotion of livelihood projects ; and decentralization of forest resource governance. These efforts have transformed the role of the people from mere labourers to partners in forest resource management. From a limited, experimental scale in the late 1970s, CBFM now covers an area of around 5.5 million hectares of forest land, and involves more than 355,000 families (Tesoro, 1999 ; DENR, 2002).

3 Key policy actors and their roles

The shaping of forest policy in post-colonial Philippines has been largely determined by the interactions, negotiations and decisions of the different political actors involved in policy formulation. Among these important policy actors are : the legislators in the Philippine Congress ; the President of the Philippines ; the Department of Environment and Natural Resources ; Local Government Units (LGUs) ; the private sector and in particular the wood industry ; academic and other research institutes ; civil society ; and international funding institutions. The respective roles of these various bodies and individuals in redirecting recent forest policy initiatives towards a more participatory forest management are briefly discussed below.

3-1 The Philippine Congress

Forestry laws are enacted by the Philippine Congress, the national legislative body composed of the Senate (upper chamber) and the House of Representatives (lower chamber). Legislative proposals or bills relating to forestry are normally initiated by DENR, although other sectors such as academia, business and civil society, can also serve as proponents. When approved and signed by the President of the Philippines, bills passed by Congress become law (Magallona and Malayang III 2001). Recently, the Philippine Congress has passed into law two important pieces of legislation supportive of the concept of CBFM : Republic Act (RA) No. 7586 or the National Integrated Protected Areas Act of 1992, and Republic Act 8371 or the Indigenous Peoples Rights Act of 1997. RA 7586 provides for the representation of local communities on the Protected Area Management Board, the policy-making body for all issues relating to protected areas, by making use of people's organizations (POs). RA 8371, on the other hand, has been considered a watershed proclamation in the history of the Philippines' forest legislation. Crucially, it differs from the Regalian Doctrine by recognizing and promoting all individual and collective rights of indigenous cultural communities/peoples (ICCs/IPs) over ancestral lands/domains, which had been under state control ever since the Spanish commandeered all "public land". Despite these two important policies, however, the Philippine Congress has yet to enact a single comprehensive piece of legislation that specifically adopts the practice of CBFM. During the last 14 years, a proposed law on sustainable forest management that adopts CBFM as the principal strategy has been repeatedly revised in the Philippine Congress but has not yet been enacted into law.

3-2 The President of the Philippines

Within the current structure of the Philippine government, the president of the country may also issue executive orders pertaining to the administration and management of the country's forest resources, although such proclamations do not carry the full force of the law, as do those passed by the Philippine Congress. Of the four presidents that have governed since the EDSA I revolution, President Fidel V. Ramos' administration has appeared the most supportive of the concept of CBFM. During his term in 1995, President Ramos issued a landmark policy, Executive Order No. 263, adopting community-based forest management as the national strategy to ensure the sustainable development of the

country's forest resources and the provision of mechanisms for its implementation. EO No. 263 remains the basis for the current administration in formulating forestry rules, regulations and programmes geared towards sustainable forestry.

3-3 Department of Environment and Natural Resources

Within the executive branch of the government, the Department of Environment and Natural Resources provides the institutional mechanism for the implementation of state policy on the development and utilization of natural resources. Congress grants DENR the authority to promulgate appropriate rules and regulations that translate the generalities of law into concrete terms to promote a more effective implementation of forest-related legislation (Magallona and Malayang III 2001). DENR is headed by a secretary, responsible for the issuance of various rules and regulations such as Department Administrative Orders and Memorandum Circulars that guide the proper implementation of forestry laws.

From 1986 to the present, the DENR has been under the successive leadership of six secretaries, including the newly appointed Heherson Alvarez who is a former member of the Philippine Congress. Of these six department secretaries, Fulgencio Factoran, Angel Alcala and Victor Ramos in particular have all contributed to the promotion of the ideals of community-based resource management through the rules and regulations pertinent to CBFM issued under their authority. In contrast, Secretary Antonio Cerilles, under former President Estrada's administration, was tagged as anti-CBFM, with his issuance of a memorandum on the 22nd September 1998 that suspended the processing of cutting permits in six regions in the country. The current DENR Secretary Alvarez, however, supports the principles of CBFM and as such has encouraged a return to the earlier course in policy taken by the DENR.

3-4 Local Government Units

With the enactment of the Local Government Code RA 7160 in 1991, certain DENR responsibilities were devolved to local government units (LGUs). The code empowers LGUs to enforce forestry laws and engage in community-based and social forestry programmes. Supportive of the CBFM, the Department of Interior and Local Government (DILG) issued three circulars in the period 1995 to 1996, enjoining all LGUs to help strengthen programme implementation. In addition, some LGUs in Luzon and Mindanao have passed provincial/municipal resolutions appropriating funds to finance CBFM projects in their localities. Some of the successful LGU initiatives for participatory forestry that have been backed up by LGU legislation include those established by the provincial governments of Nueva Viscaya in Northern Luzon and Bukidnon in Mindanao.

3-5 The private sector

Traditionally, the role of the private sector in forestry has been primarily confined to the development of forestry and wood processing technologies to generate jobs, capital and timber-based products (Korten 1992). With the evolving political and economic situation, however, the wood industry has become increasingly involved in the promotion and advocacy of policy that benefits the industry's interests. During the initial conception of community forestry, there was considerable resistance from the wood industry in permitting local communities to utilize timber on a commercial scale. However, along with strengthening government support for CBFM, members of the private sector have increasingly accommodated the CBFM approach within the country's strategy for sustainable forest management. A draft bill on sustainable management of forest resources currently being debated in congress singles out CBFM as the principal strategy in achieving this aim, and has won the full support of the private and other sectors.

3-6 Academic and other research institutions

Academic and other research institutions have likewise contributed, both directly and indirectly, to the shaping of forest policies which advocate participatory management. Enlightened academics from the oldest forestry college in the Philippines, the College of Forestry and Natural Resources (CFNR) at the University of the Philippines Los Baños, as well as esteemed researchers from the Los Banos science community, have played a key role in determining the new people-oriented, conservation-minded course of forest policy, in place of the historically pro-elite, exploitative mode of management. Immediately after the EDSA I revolution in 1986, the newly appointed DENR Secretary Sonny Dominguez created a Policy Advisory Group (PAG) chaired by the former CFNR Dean Juan Adolfo V. Revilla and composed mostly of members of the Los Banos science community to coordinate a fresh direction in forest policy. The PAG adopted equity and redistributive social justice as core principles in crafting the DENR's policy agenda, particularly in the area of resource allocation. As a result, the balance has been tipped away from the once TLA-biased forest policies in favor of community-based forest management. Subsequent forest policy has embraced the principles of social equity and people's participation in forest management, with academics and researchers contributing significantly to their formulation, most notably the 25 year Master Plan for Forest Development.

With their commitment to advance the knowledge and practice of community forestry, concerned forestry schools, colleges and research institutions have also developed and implemented research projects that advance the theory and practice of people's participation in forestry activities. Findings from these research pro-

jects have served as the scientific basis for policy formulation and have indirectly contributed to the advancement of participatory forest management policies. Moreover, the offering of social forestry subjects over the last two decades in more than 30 forestry schools in the country has led to the production of a new generation of "people-oriented foresters", some of who are now instrumental in advocating the continuous development of the policy and practice of CBFM.

3-7 Civil society

Civil society constitutes the non-government organizations (NGOs) and people's organizations (POs), which operate at the national and local levels. Included in this category are international NGOs and national/local NGOs and POs whose capacity for influence ranges from the provision of funds, policy advocacy, provision of legal assistance to indigenous people, implementation, monitoring and evaluation of DENR projects, community level actions, and others. Broad and Cavanagh (1993) estimated that the number of people working for or otherwise associated with formally organized NGOs and POs in the country stands at about 5-6 million, or around a tenth of the total Philippine population. No estimate exists, however, as to how many of these are working only on forestry related concerns.

The 1991 Local Government Code provided the legal platform for civil society to become involved in the governance of the country's forest resources, including policy formulation. The Code allowed for the representation of civil society in governmental and multisectoral policy making bodies such as in the municipal, provincial and regional development councils, as well as the Protected Area Management Board in the case of NIPAS areas. Over the last decade, the advocacy work of the civil society sector has been instrumental in the enactment of CBFM-related policies such as Executive Order No. 263 in 1995 and its implementing rules and regulations, the NIPAS Act of 1992 and the Indigenous Peoples Rights Act of 1997. More recently, national NGOs such as the Upland NGOs Assistance Committee (UNAC) and the Philippine Federation for Environmental Concern (PFEC) have entered dialogue with the DENR to comment on new DENR rules and regulations to strengthen the development and management of CBFM areas.

3-8 Funding institutions

Multilateral and bilateral funding institutions such as the World Bank (WB), Asian Development Bank (ADB), International Tropical Timber Organization (ITTO), and the governments of Japan, Canada, United States, the European Union etc., act as global drivers of forest policy in the Philippines (Malayang 2001). Their instruments of influence include the provision of funds and budgetary and technical support. Of the various funding institutions, the Ford Foundation, United States Agency for International Development, ADB and WB perhaps have the greatest influence in redirecting the country's policy towards CBFM. The 15 years of experience that the Upland Development Programme has gained through funding by the Ford Foundation have significantly contributed to the refinement of earlier policy which evolved as a major forerunner to the present CBFM programme. The Natural Resources Management Programme, implemented through a financial grant from USAID, was instrumental both in synthesizing EO No. 263 and generating its widespread acceptance, as well as implementing the rules and regulations adopted under CBFM as the national strategy for sustainable development of the country's forest resources. Similarly, experiences gained from forestry projects funded by the WB and ADB have contributed to the development of policies that provide upland communities with land tenure security and access to forest resources, and have promoted the participation of civil society in forest management.

4 Current issues in forest policy

Given the significant shift away from a TLA-based mode of management towards a community-based approach, it could be argued that the shaping of forest policy in the Philippines over the last two decades has been radical and progressive. Indeed, some professional observers have claimed that the "Philippines has drafted some of the most progressive community-oriented resource management policies in Asia" (Walpole *et al.* 1993). Other experts regard these policies as something to be acknowledged and learned from, if not emulated by other countries in a similar situation (Byron 1992 ; Fox 1993). However, whether such policy initiatives will persist and eventually lead to sustainable upland development remains to be seen. A deeper analysis of current policy formation in the country reveals some important issues, which are briefly discussed below.

4-1 The challenge of consensus-building among policy actors

The diversity of stakeholders involved in forest policy formulation gives rise to a wide range of interests and perspectives which make consensus-building a difficult task. Recent approaches to policy formulation have tended to focus more on justifying proposals, than on defining the processes and mechanisms that make for a dynamic policy system. For instance, conflicting views and a lack of consensus have prevented a bill on sustainable forest management, initially proposed alongside a total logging ban, from developing beyond the discussion phase for over a decade. The challenge, therefore, is to invest more in "processes that facilitate continuing, shifting and coordinated consensus-making among sectors at all decision levels, and on developing mechanisms that would allow for a wider representation in policy making" (Malayang 2001). However, precisely

how these processes and mechanisms should be instituted and who should be responsible for their initiation has yet to be spelled out.

4-2 The urgency of legislating for CBFM

A single comprehensive piece of legislation that incorporates all the recent efforts and initiatives of participatory forestry has yet to be enacted. In the absence of a more up-to-date forest legislation that reflects the current CBFM approach, Presidential Decree (PD) No. 705, otherwise known as the Revised Forestry of the Philippines enacted in 1975 and amended by PD 1559 in 1978, remains the basis for law enforcement regarding forest management issues. However, this law is regulatory rather than developmental in nature, and therefore does not really capture the spirit and intention of CBFM strategy. As previously mentioned, the proposed bill on sustainable forest management that adopts CBFM as the principal strategy of forest management, has been under discussion in the Philippine Congress for more than a decade, and has not yet been passed into law. Until this is done, CBFM will always be vulnerable to alternative approaches, depending on the whims and desires of the DENR executive.

4-3 Moving beyond policy formulation

The current approach to forest policy development continues to place particular emphasis on policy formulation with only very limited efforts being made to monitor and evaluate the efficacy of policy, once it is passed into law. Such a feedback mechanism is necessary in order to provide a basis for further refinement where policy is found not to work on the ground. To achieve better results, there is thus the need to extend the focus beyond policy formulation and put equal, if not more emphasis on monitoring and evaluating the effects of policy, as well as to establish an appropriate feedback mechanism to ensure a more dynamic and responsive policy development process.

5 Conclusion : making forest policies more responsive to local needs

A historical analysis of the development of forest policy in the Philippines highlights the trend from a highly regulatory, centrally controlled and industry-biased forest policy characteristic of the colonial period, towards a more decentralized, participatory and people-oriented approach that has typified the direction of policy over the last two decades. A number of different stakeholders have played a crucial role at various levels in formulating policy that has placed increasing emphasis on community involvement in forest management.

Given this rapid transition from a TLA-regulated mode of management to a community-based approach, the shaping of forest policy in the Philippines over the last two decades and in particular the formulation of CBFM, may be considered radical and progressive. However, whether such policy initiatives will persist and eventually lead to sustainable upland development, remains to be seen in the coming years. A deeper analysis of the current process of forest policy formation reveals three major concerns, namely, the challenge of building consensus among different policy actors, the urgent requirement for legislation which embodies the methods and objectives of CBFM, and the need to put more emphasis on the monitoring and evaluation of existing policies, rather than simply focusing on policy formulation.

Addressing these three issues, however, does not guarantee that forest policies will automatically become more responsive to local people's needs. Genuine reform in the policy process has to be associated with a corresponding shift in power. That is, modifying the processes and mechanisms into a more dynamic and responsive policy system requires that power be more equitably distributed across not only the traditional power bases, such as the State and its various agencies, but also throughout the more marginal groups of society. Civil society, and especially POs, must strengthen their political capacity and develop their human and economic resource base. This will put them in a stronger position for negotiation with other political actors in order to arrive at a policy consensus that will advance their own interests and welfare, and promote the sustainability of the forest resources upon which many of them depend. The process will certainly require that local groups establish alliances and partnerships with a wider range of stakeholders. The involvement of sympathetic and conscientious members of the government, as well as academic, private and international funding institutions, is required to ensure that the ability to influence policy decisions is extended to those who justly deserve it.

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Appendix 1 Important Laws and Decrees Relating to Forestry.

Policy instrument	Form and year of issuance	Major focus and mandate
Revised Forestry Code of the Philippines	Presidential Decree No. 705 of 1975 as Amended by Presidential Decree No. 1559 of 1978	• Created the Bureau of Forest Development (BFD) with line authority • Mandated the adoption of multiple use, selective logging system and land classification; delineation of forestlands and industrial tree plantations; identification of key conservation and reforestation strategies; conduct of census; and initial recognition of forest occupants
The 1987 Philippine Constitution	Constitution of 1987	• Adopted the Regalian Doctrine • Entitled the state to undertake on its own the development and utilization of natural resources or enter into co-production, joint venture, or production agreements
Executive Order No. 192 (Reorganization of the DENR)	Executive Order with legislative and executive powers issued in 1987	• Downgraded the BFD from a line agency to a staff bureau • Mandated the DENR to conserve, manage, develop, properly use, license, and regulate the use of natural resources
Local Government Code	Republic Act No. 7160 of 1991	Partially devolved some functions of the DENR to the LGUs
National Integrated Protected Area Systems (NIPAS) Act	Republic Act No. 7586 of 1992	Allocated forestlands and forest resources as protected area systems for biodiversity purposes, preservation of habitats, watershed protection, and maintenance of ecological balance
The Law on Forest Charges on Timber and Other Forest Products	Republic Act No. 7161 of 1993	Mandated the government to increase forest charges for timber and non-timber forest products up to 25 per cent and 10 per cent of FOB prices, respectively
EO 263 (Community-Based Forest Management Strategy)	Executive Order of 1995, with no legislative power, issued in 1995	Mandated the DENR to adopt CBFM as the strategy for sustainable forestry and social justice
Indigenous Peoples Right Act	Republic Act No. 8371 of 1997	Mandated the government, through the newly created National Commission on Indigenous Peoples (NCIP), to recognize, protect, and promote the rights of indigenous peoples

Source: Guiang (2000).

Appendix 2 Compilation of Policies relating to Community-Based Forest Management.

Policy instrument	Issuing Authority and Date of Issuance	Title of Policy
Executive Order No. 263	President of the Philippines (19th July 1995)	Adopting Community-Based Forest Management as the National Strategy to Ensure the Sustainable Development of the Country's Forest Land Resources and Providing Mechanisms for its Implementation
DENR Administrative Order No. 96-29	DENR Secretary (1996)	Rules and Regulations for the Implementation of Executive Order No. 263, Otherwise Known as the Community-Based Forest Management Strategy (CBFMS)
DENR Memorandum Circular No. 97-11	DENR Secretary (1997)	Operationalization of the CBFM Programmes at the Regional, PENR and CENR Offices
DENR Memorandum Circular No. 97-12	DENR Secretary (1997)	Guidelines for the Formulation of Community Resource Management Framework and Annual Workplan for Community-Based Forest Management Areas
DENR Memorandum Circular No. 97-13	DENR Secretary (1997)	Adopting the DENR Strategic Action Plan for Community-Based Forest Management (CBFM)
DENR Administrative Order No. 98-10	DENR Secretary (14th March 1998)	Guidelines on the Establishment and Management of Community-Based Forest Management (CBFM) Projects within Mangrove Areas
DENR Administrative Order No. 92-30	DENR Secretary (30th June 1992)	Guidance for the Transfer and Implementation of DENR Functions Devolved to the Local Government Units
DENR Administrative Order No. 93-02	DENR Secretary (1993)	Rules and Regulations for the Identification, Delineation and Recognition of Ancestral Land and Domain Claims
DENR Memorandum Circular No. 93-13	DENR Secretary (22nd February 1993)	Share of Local Government Units (LGUs) from the Utilization and Development of Forest Resources Within their Area of Jurisdiction
DENR Memorandum Circular No. 93-31	DENR Secretary (30th September 1993)	Amendment to DENR Memo Circular No. 13, Series of 1993 re: Share of Local Government Units (LGUs) from the Utilization and Development of Forest Resources Within their Area of Jurisdiction
DENR Administrative Order No. 96-34	DENR Secretary (12th November 1996)	Guidelines on the Management of Certified Ancestral Domain Claims
DENR Administrative Order No. 98-01	DENR Secretary (6th January 1998)	Establishing the Forest Resource Securitization Strategy for Mobilization of Private Capital to Support Sustainable Forestry in the Philippines

Appendix 2 Continued.

Policy instrument	Issuing Authority and Date of Issuance	Title of Policy
Executive Order No. 72	President of the Philippines (25th March 1993)	Providing for the Preparation and Implementation of the Comprehensive Land Use Plans of Local Government Units Pursuant to the Local Government Code of 1991 and Other Pertinent Laws
DILG Memorandum Circular No. 95-94	DILG Secretary (10th July 1995)	Initial Guidelines Accompanying the President's Memorandum Addressed to all Local Government Units dated 17th June 1995 Entitled "Recommendations Raised During the Gathering for Human and Ecological Security: A Conference on Population, Environment and Peace"
DILG Memorandum Circular No. 95-130	DILG Secretary (30th August 1995)	Supplementary Guidelines to Memorandum Circular 95-94 dated 10th July 1995 on Initial Guidelines Accompanying the President's Memorandum Addressed to all Local Government Units dated 17th June 1995 Entitled "Recommendations Raised During the Gathering for Human and Ecological Security: A Conference on Population, Environment and Peace"
DILG Memorandum Circular No. 96-143	DILG Secretary (1996)	Enjoining Support to the Community Forestry Program

Source: CBFM Office - DENR, 1998

Policy Trend Report 2002: 42-51

Farm Tree Planting and the Wood Industry in Indonesia : a Study of *Falcataria* Plantations and the *Falcataria* Product Market in Java

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Abstract : Given that the cutting pressure on natural forests in Indonesia must now be reduced, it is vital that the forest industries adjust accordingly and shift their resource base from natural forests to plantations. This study is presented in an attempt to help develop a tree plantation strategy for Indonesia and so facilitate this industrial transformation. Focusing in particular on the issues surrounding farm tree planting, a case study format is adopted in a treatment of *Falcataria*, a preferred plantation species used in agroforestry systems mainly in Java. This study describes i) some characteristics of the *Falcataria* product market ; ii) the institutional framework that accommodates *Falcataria* plantations ; and iii) the role of the government in the development of *Falcataria* plantations. By way of conclusion, this study asserts that the *Falcataria*-based industries possess a suite of promising characteristics in the context of current trends in the world wood trade on the grounds that they support a high value-added market for environmentally friendly products.

This study also highlights the need for local markets in Indonesia to be nurtured in order that *Falcataria* products can be successfully advanced onto the international market. In developing a plantation strategy for private lands, the government is cautioned that any scheme is likely to fail in the absence of adequate preparation. Thus it is seen as essential that incentive measures be put in place in support of market growth ; several such incentive measures are reviewed here. In this respect, it may be necessary for the public sector to learn what constitutes a successful initiative from the example set by private enterprise. This document also stresses various issues relating to land tenure and the operation of plantation systems. Nonetheless, given the broader context of a resource development strategy for Indonesia, it is recognized that tenure and plantation systems are not the sole avenue for analysis. A more robust understanding of market-based issues is also required. Such themes may include the development of market research methodology ; the use of forest certification in marketing ; and the creation of various incentive measures for tree plantations. In order to develop a national resource development strategy, consensus building by way of workshops which involve all concerned individuals and organizations is now a process fundamental to achieving successful reform in the forestry sector.

Key words : Indonesia, plantation strategies, Java, farm tree planting, *Falcataria*.

1 Purpose of this study

1.1 Background

Given the scale and nature of the problems associated with the depletion of the forest resource in Indonesia, the Government of Indonesia (GoI) and the Consultative Group on Indonesia (CGI) have resolved an international commitment on forest policy development in the form of a Memorandum of Understanding. The priorities of the GoI-CGI commitment are defined by 12 agenda items and are embodied by the following five core activities (Hardjowitjitro, 2001) :

1) Eradication of illegal logging
2) Control of forest fire
3) Restructuring of the forest industry (industrial down-sizing)
4) Development of forest plantations for forest and land rehabilitation
5) Decentralization of the forestry sector

Accordingly, CGI is expected to coordinate its programme of activities in such a way as to be compatible with these commitments, and must also assist the forest industry in shifting its resource base from natural forests to plantations, in order to reduce the pressure on natural forests. This paper sets out to address CGI's objectives by analysing the development of tree plantation strategies in Indonesia as a means of facilitating this industrial transition.

In Indonesia, two main approaches to tree plantation development can be recognized : i) industrial tree planting (HTI) and ii) farm tree planting (or tree plantations grown on private or customary lands). Although both approaches are important as a resource development strategy, the present study focuses on the issues concerning the latter : farm tree planting.

Here, a case study format is adopted in a treatment of the production and marketing of a particular plantation tree species, namely *Falcataria*. Native to the Moluccas and New Guinea, *Falcataria* is a preferred plantation species in Indonesia and has figured particularly in the development of plantations in Java (Parwirohatmodjo, 1992). It is fast growing and used widely in the production of pulp, paper, veneer, plywood and furniture. (Charomaini & Suhaendi, 2002). Several scientific names have been applied to *Falcataria* (including *Albizia falcataria* (L.) Fosberg, *Paraserianthes falcataria* (L.) Nielsen, *Albizia falcata* (L.) Backer, *Albizia moluccana* Miq. and *Adenanthera falcataria* L., all of which are generally accepted as synonyms of *Falcataria moluccana* (Miq.) Barnaby & Grimes), though in Java it is locally known as *Sengon*. Nomenclatural issues aside, in this study the name *Falcataria* is used to refer to the species

in a broad sense.

In addition to its industrial uses, *Falcataria* is a popular choice as an intercropping species in Indonesia (Djogo, 2002), and consequently, a number of typical problems associated with the role of trees in farm planting can also be identified. This makes it an ideal subject for analysis. Since, however, *Falcataria* is most widely planted in Java, this island forms the main geographical focus of the study.

1.2 Objectives

The present study describes :

i. Some characteristics of the *Falcataria* product market ;
ii. The institutional framework that accommodates *Falcataria* plantations ; and
iii. The role of the government in the development of *Falcataria* plantations.

Whilst some of the findings concerning *Falcataria* plantations in Java can be used to form generalizations about other tree planting practices in other parts of Indonesia, as has been mentioned, many of the findings presented here are specific to Java Island and should not simply be applied to the situation on other outer islands.

2 The *Falcataria* product market

2.1 World wood products market

Araya (2002) claims that although on a global scale the wood industries have been going through a period of major change since the early 1990s, the traditional wood industries in Indonesia are becoming outdated. The two main changes that have occurred in the world wood industry are that wood products have become increasingly (a) high value-added and (b) environmentally friendly.

Araya argues that the shift towards a high value-added products market is illustrated, for example, by the substitution of lumber by laminated and finger-joint wood products as well as by OSL and PSL. Similarly, plywood has been taken over by particleboard, OSB and fibreboard. At the same time, the wood panels market has expanded whilst the traditional solid wood market has shrunk.

With regards to the shift towards environmentally friendly wood products, Araya points out that timber is increasingly being sourced from plantation forests, and that forest certification systems have been expanding rapidly to guarantee wood products that are derived from sustainably managed forests. In addition, the use of wood resources has become more efficient in the manufacturing sector, adding weight to the claim of environmental superiority. Environmental claims can be made if low quality resources become high value-added products via a capital- and/or labour-intensive manufacturing processes.

Effectively, these trends set the standards with which the Indonesian wood industries must catch up. In this context, Araya (2002) asserts that, in order to support an industrial transition aimed at sustaining an export market, the role of the domestic market in Indonesia should not be neglected, since it is here that exporters stand to learn by accommodating those products rejected at the international level. In any case, because export markets often experience day-to-day fluctuations, strengthening the domestic market could help to reduce the financial risks for those involved in the wood trade.

Based on Araya's argument as outlined above, the current state of the *Falcataria* product market is investigated in the following sections. In particular, three working questions are addressed : 1) How can *Falcataria* trees be processed into high value-added products for the export market? 2) Which aspects of *Falcataria* products could be regarded as being environmentally friendly? 3) How is the domestic *Falcataria* market organized?

2.2 *Falcataria* for high value-added wood products

Solid *Falcataria* wood has a white color and rough texture. It is a light material that is easily worked in manufacturing processes ; it is not strong enough to serve as a structural component. *Falcataria* is a fast-growing tree and its log prices are usually very low. As a result of these characteristics, *Falcataria* has traditionally been used mainly locally for low value-added products, and has been neglected as an industrial timber of high value-added uses.

Recently, however, *Falcataria* has been used to produce many high value-added products in response to natural resource constraint. Among industrial uses, for example, furniture makers are increasingly using *Falcataria* in the manufacture of tabletops and drawers. Colour boxes made from *Falcataria* have become common and can now be readily found in DIY stores in Japan and other countries.

In addition, *Falcataria* is also used for bare core and block boards in which small pieces of *Falcataria* are laminated and finger-jointed together to form high value-added products. This is a typical example of an efficient resource use practice, which Araya (2002) defines as characteristic of "the world trend".

Door manufacture is also a promising area of development, as *Falcataria* is increasingly used to make the inner sections of doors, often being finished by MDF products on either side. Because MDF products are often made from plantation trees, such as rubber wood and pine, *Falcataria* doors can be regarded as being environmentally friendly since they are produced using a combination of farmed trees and recycled wood fibre.

Of particular note is that *Falcataria* doors are certified as fire-resistant in the UK and are widely used in McDonalds hamburger chain stores ; currently, *Falcataria* products exported by a single Java-based company account for 50 per cent of the market for

fire-resistant doors in the UK. That is, as a result of its unique set of characteristics, the *Falcataria*-based industries are establishing a firm position for themselves in the global wood products market.

2.3 *Falcataria* for environmentally friendly wood products

As already mentioned, *Falcataria* products can be promoted as being environmental friendly because *Falcataria* trees are grown mostly on private land such as farms, and not on land claimed from natural forest. Moreover, farm tree planting is indicative of community development, which is regarded as being complementary to the process of environmental conservation. In addition, many final *Falcataria*-based products are combined with other wood materials derived from plantations, such that environmental claims may still be justly made.

Here, the relationship between *Falcataria* products and environmental friendliness is summarized. First of all, the use of plantation resources may be regarded as being environmentally friendly. Indeed, even traditional plywood companies, including timber concession holders, have gradually shifted their resource base towards plantation forests in order to produce wood products such as plywood and LVL. *Falcataria* has become the centre of attention in this movement.

Secondly, environmental claims can be made where an efficient resource use system, as opposed to wasteful resource extraction systems, has been established. In this context, *Falcataria* has become a preferable material. Some companies, in fact, have introduced new rotary machines in order to utilize smaller logs with 20-25 cm diameters. In this way, technological developments make efficient resource use possible, endorsing the economic viability of *Falcataria* plantations with 6-year rotations.

Thirdly, environmental claims can also be made if low quality wood materials are converted into high value-added wood products through labour- and/or capital-intensive manufacturing processes. Usually, labour-intensive processing is a transition stage prior to capital-intensive processing, as the labour costs and the standard of living in a society increase. A typical case is the plywood industry in Indonesia. In comparison with particleboard and fibreboard, for example, plywood manufacture is a labour-intensive process (in particular, repairing deficiencies in a veneer is extremely labour-intensive). Along with a shortage of quality raw materials and rising labour costs, this is the main reason why the plywood market is shrinking around the world. However, Indonesia is still at a stage where labour-intensiveness forms a competitive edge for the industry : it is still important for a country like Indonesia to have an industry generating a large amount of employment. In essence, whether a labour-intensive industries are appreciated in social terms or not, *Falcataria* plywood manufacture is appropriate to the Indonesian economy at this moment and well poised to make valid environmental claims.

Over all, the *Falcataria* industry exhibits a unique combination of characteristics, allowing it to produce both high value-added and environmentally friendly products suitable for the contemporary export market. Figure 1 shows the recent trends in *Falcataria* product export. Based on prices in US dollars, the huge decrease which occurred in 1998 may be over-exaggerated because the Indonesian rupiah - US dollar exchange rate dropped significantly following the Asian economic crisis. Nonetheless, the figure illustrates that the export of value-added products began in earnest during the late 1990s at a time when *Falcataria* lumber exports were decreasing. According to the author's personal communication with furniture and plywood makers, the *Falcataria* product export market is thought to have expanded since the year 2000. This phenomenon is too recent to have been captured by any official statistics.

2.4 *Falcataria* for local markets

As Araya (2002) points out, local markets can support the export industries by accommodating products rejected on international markets. This is the case where domestic markets are able to absorb those products being produced for international trade. Currently, however, there is little domestic demand for high value-added *Falcataria* products in Indonesia.

However, from the point of view of *Falcataria* growers, the presence of a stable local log market is the main concern. Therefore, low value-added *Falcataria* products specific to the domestic market are also of central importance given that the export market can fluctuate greatly over short time frames, as shown in the Figure 2. In particular, exports from Sumatra exhibit drastic fluctuations. Although the precise reason for this is unknown, it is thought that the rise and fall of relatively few exporters can dictate the overall outcomes of *Falcataria* export.

In other words, in order to sustain the export industries, the availability of two kinds of products in local markets is optimal : i) products designed for the international market and ii) products specific to local

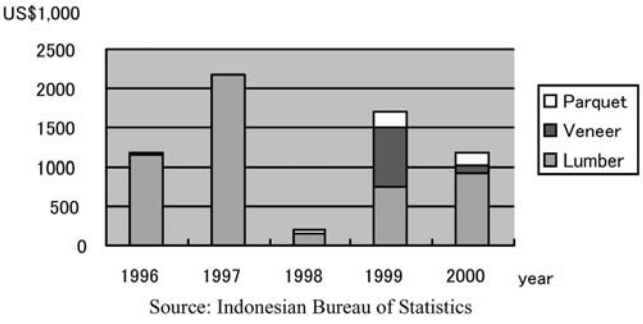

Fig. 1 *Ealcataria* exports by product.

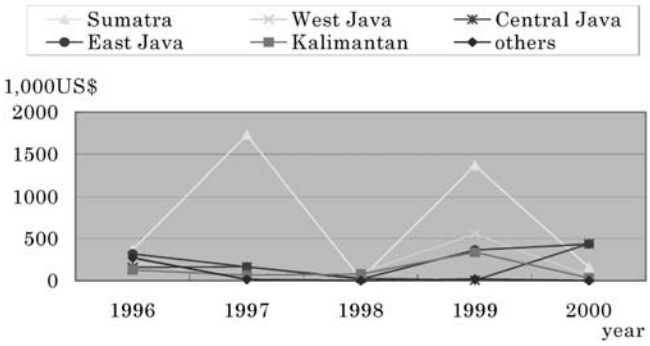

Fig. 2 *Ealcataria* exports by region.

use. The current condition of the local markets as it relates to these two kinds of products is discussed in the following section.

2.4.1 The local market for *Falcataria* products designed for international trade

As has been shown, those *Falcataria* products for which there are strong export markets are : i) building and wood working materials including plywood, LVL, finger joint lumber and bare core, and ii) final products, such as doors and furniture, some parts of which are made of the above materials.

Presently, there is no local market for these kinds of *Falcataria* products in Indonesia, where value-added components are mostly traded vertically between manufacturers and finished products are sold predominantly to overseas buyers. Some exporters and manufacturers outsource part of the manufacturing process to several local makers so as to spread the risks inherent in the market. For example, bare core is commonly manufactured at small local factories and sold on to exporters. This is the typical market structure for high value-added *Falcataria* products.

2.4.2 The local market for *Falcataria* products specific to local uses

There are many specialist *Falcataria* sawmills which produce goods specifically for the local market. In West Java alone, there are at least 140 *Falcataria* sawmills (PT Data Consult, 2002). As one of the cheapest wood materials available to local people, *Falcataria* lumber is typically used for consumable or disposable products, such as pallets and boxes. In other cases, however, *Falcataria* lumber is used for structural components such as roof frames and for concrete panels, which, considering its physical characteristics, is not really appropriate. For housing materials, *Falcataria* is good for non-structural or ornamental parts, such as window frames. Although a solid local market for *Falcataria* products exists, so do several key problems. With respect to high value-added products, only vertical transactions have been developed between manufacturers : there is virtually no consumer market for high value-added *Falcataria* products. In order to nurture the *Falcataria* export industries, it is vital that the public sector be encouraged to play a greater role in the creation of a domestic market for a wider range of products. For example, the use of *Falcataria* in public facilities is suggested as a good starting point to promote high value-added *Falcataria* products.

Another problem is the lack of any organized strategy to explore further the local market for low value-added products. As has been mentioned, *Falcataria* is a light material and as such its usage should be limited. Currently, however, *Falcataria* lumber is used for structural components in house construction and for concrete panels, both of which require physical strength. This may be due to a lack of knowledge on the part of the consumer, or because the low cost of *Falcataria* products ensures it is extensively utilized, regardless of usage. As far as possible, the public sector should support extensive wood product research to develop an improved and more appropriate, as well as novel strategy for local *Falcataria* usage.

In addition, reports from local people in West Java suggest that *Falcataria* sawmills are producing a lot of residue as industrial waste. This is clogging up the rivers and waterways where it is being dumped, causing local environmental problems. Given that these residues could be utilized for energy production and in the manufacture of fertilizers, pulp and paper, for example, the coordination of different resource uses is required to reduce environmental problems and ensure the development of efficient resource use practices. In order to do so, it is important to introduce the concept of lifecycle assessment in *Falcataria* use chains.

2.5 *Falcataria* for the international market

This section gives a brief assessment of the *Falcataria* export market. Figure 3 shows how exports of *Falcataria* products bound for a range of consumer countries have varied in the period 1996 to 2000. Until 1998, Japan was the main destination for exports. However, following the Asian economic crisis of 1998, the export market has diversified, with growing consumption of *Falcataria* products in many Asian countries, including Hong Kong, China and Korea. However, if *Falcataria* export is to develop further as a major national industry through targeted international sales, it is vital that the diversity of consumer preferences in relation to wood

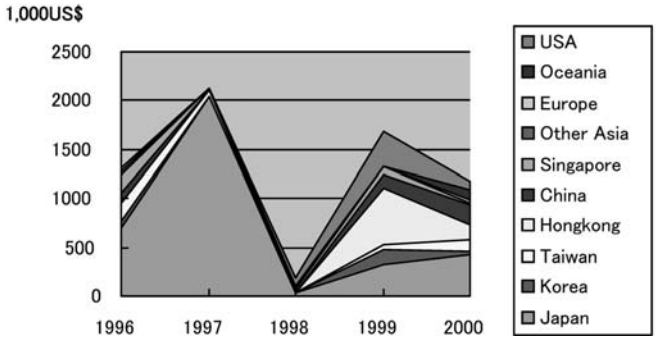

Fig. 3 *Falcataria* exports by destination.

products between different countries is better understood. Market research in each destination country is essential in this context.

As there is no comprehensive information available on the global *Falcataria* market as a whole, some information on the plywood industry is provided here. Although, as been mentioned earlier, *Falcataria* plywood is a promising product for export, increasingly factory managers involved in the *Falcataria* plywood trade are recognising the competitive threat posed by poplar plywood from China. According to such sources, the price for 3 mm *Falcataria* plywood on the export market in spring 2002 was US$\times$360/m^3, whereas that of Chinese poplar plywood in the same period was US$\times$270/m^3. To make matters worse for Indonesian manufacturers, the competitiveness among domestic industries is weakening because of recent economic trends tending to increase the strength of the Indonesian rupiah against the US dollar, as well as the rising minimum wage in Indonesia. In addition, some analysts hold a slack work culture responsible for a relatively low productivity in Indonesia, as compared with the Chinese labour force.

On the other hand, there are positive signs for the future development of the Indonesian *Falcataria* plywood industry :

1) Indonesia's basic economic competitive edge in world markets will improve in the long run as China's participation in WTO opens up Chinese markets and non-tariff regulations, such as minimum wage regulations, are enforced.
2) In the long run, *Falcataria*'s 6-year rotation will prove to be economically advantageous for Indonesia, as Chinese poplar requires around 12 years to reach a harvestable age.
3) In comparison with China, where national initiatives have created elaborate production systems in the primary industries including poplar plantations and the plywood industries, the Indonesian government has yet to develop any effective measures concerning the *Falcataria* plywood industries. That is, there remains great potential to develop the role of the public sector to support the *Falcataria* industries in Indonesia.

Unfortunately, there are as yet no effective evaluation measures for the various opinions stated above. Indeed, long-term appraisals of international markets generally involve too much uncertainty to allow accurate predictions to be made. However, the C.E.O. of one plywood company underlined the importance of resource development by saying, "after all, resources come first and we just follow them. In fact, we are ready for investment to utilize them". If this is the case, the development of *Falcataria* plantations dictates the movement of the industry.

3 Institutional arrangements relating to *Falcataria* plantations

This section focuses on the institutional issues relating to *Falcataria* plantations. Firstly, the current state of *Falcataria* plantations in Java is summarized, with explanation of how and where these have been developed. Secondly, the institutional framework concerning the development of *Falcataria* plantations is discussed, with reference to the incentives in place to encourage the establishment of new plantations. Finally, the role of the public sector in *Falcataria* plantations is discussed.

3.1 Current state of *Falcataria* plantations in Java

PT Perhutani is the national forestry corporation in charge of the management of state owned forests on Java Island. Of the approximately 3 million hectares of national forest estate managed by PT Perhutani in Java, production forests accounts for 1.92 million hectares (64 per cent). This is the area in which organized plantation forestry is practiced. However, only 7,000 hectares of this area is composed of *Falcataria* plantation, as shown in Table 1. Accordingly, traditional plantation species, such as Teak and Pine, account for most of the PT Perhutani plantation forests.

Other conditions under which *Falcataria* plantations are seen are *Hutan Rakyat,* which can be translated as 'social forestry'. Contrary to the conventional concept of social forestry, however, *Hutan Rakyat* is comprised of private forest land situated around villages in Java. The term 'social' is probably applied because villagers are typically contracted to work in these forests by landowners. As Table 2 illustrates, approximately 0.3 million hectares of *Hutan Rakyat* exist on Java Island. Unfortunately, however, there are no statistics available on *Hutan Rakyat* tree plantations. Nonetheless, it is known that *Falcataria* is (amongst others) a preferred tree for planting within *Hutan Rakyat.*

In addition, because it is capable of fixing atmospheric nitrogen and is therefore a common choice in intercropping systems, *Falcataria* is also often seen on farmland. *Falcataria* is also often used as a prime shade tree in coffee and cacao fields. Theses farm-based *Falcataria*

Table 1 PT Perhutani in Java.

Total Area: 3.01 Million hectares

Production Forests:	**1.92Million ha**
Teakwood:	1.09 Million ha
Pine tree:	0.57 Million ha
Damar:	0.08 Million ha
Mahoni:	0.07 Million ha
Meranti:	0.02 Million ha
Snokeling:	0.02 Million ha
Acacia Mangium	0.02 Million ha
Falcataria	**0.007Million ha**

*Note: All *Falcataria* is in East Java (PT Perhutani Unit II).

resources have a potential for industrial use although, again, no statistical information is currently available.

Furthermore, *Falcataria* has been widely planted in empty spaces and on otherwise unused land, as ornamental or roadside trees. In light of these and other uses and because *Falcataria* plantations have developed in a rather ad hoc fashion, it is hard to estimate the resource base quantitatively for the entire island. However, it is important to recognise all classes of plantation outlined here as an industrial resource since they largely occur in populated areas where they may be easily accessed and utilized.

3.2 Land tenure and *Falcataria* plantations

As has been emphasized, *Falcataria* plantations are largely developed on private land outside of existing forests. In addition, there is usually no specific forest management plan applied for their management. As is highlighted in Figure 4, this inherent resource structure implies the way in which a strategy for the development of *Falcataria* plantations should be devised.

As would be the case for the formation of any plantation development strategy, the institutional framework as it pertains to *Falcataria* plantations must first be clarified. For example, the following questions need to be addressed :

1) Should *Falcataria* plantations be developed beyond private land?
2) Is there a need to introduce a comprehensive forest management system for the management of *Falcataria* plantations?
3) If so, what should the role of the public sector be in this transition?

Crucially, the development of an institutional framework has to be based on data derived from existing *Falcataria* plantations. Since, however, there are currently no statistics available, it is vital that a coordinated data collection system be developed in order to allow research to be conducted and information to be collated for the enhanced management of the plantation resource.

3.3 Incentive measures to encourage establishment of new *Falcataria* plantations

In order to encourage the development of *Falcataria* plantations on private land, it may become necessary to institute incentive measures. In this context, the government is expected to play a central role. However, without thorough preparation, any government scheme is likely to fail. It is sometimes essential for the public sector to learn what constitutes a successful private initiative.

3.3.1 Unsuccessful government initiatives

With respect to *Falcataria* plantations, the Indonesian government has introduced several incentive schemes, including KUHR in 1998, as illustrated in Figure 5. This scheme relies on the cooperation of three bodies : the government to provide funding, private companies to produce a management plan, and farmers or landowners to grow the trees. The Ministry of Forestry is supposed to monitor the whole process.

Whilst in theory this system appears to be robust, in practice there are many problems. According to Nawir (2000), KUHR has not been successful because :

1) Company participants have not been fully committed to the scheme ;
2) Participants in the scheme have failed to consistently adhere to the administrative require-

Table 2 **Hutan Rakyat*' or social forestry as potential areas for *Falcataria* plantation.

	Area (ha)	Type of Trees
West Java	45,000	mix-plants, including *Falcataria*
Central Java	180,000	*Falcataria*, Acasia, Mahoni, Jati, other intercropping plants
East Java	70,000	*Falcataria*, Mahoni, Jati, Acasia

Source: Director General of Land Rehabilitation and Social Forestry

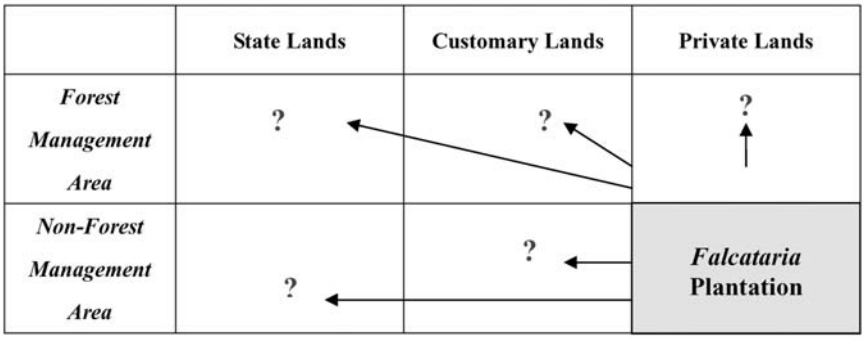

Fig. 4 Future direction for *Falcataria* plantations in Java.

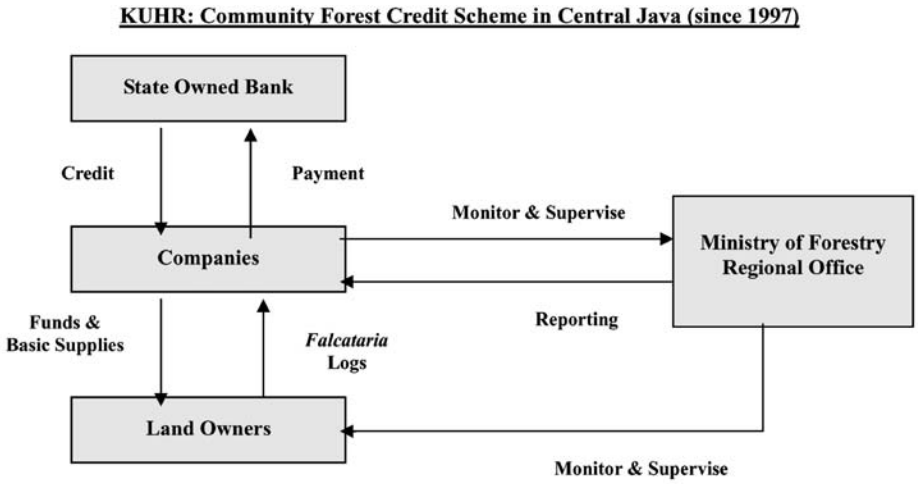

Fig. 5 Unsuccessful governmental initiatives in *Falcataria* plantation development.

ments set by the Ministry of Forestry ;

3) Tree growers do not possess adequate knowledge of silviculture, especially in terms of plantation maintenance activities ;
4) Monitoring has not been systematically practiced by the Ministry of Forestry neither at the provincial nor the district level ; and
5) Despite being the main source of funding for KUHR, Reforestation Funds have not been made available, further preventing the Ministry of Forestry from meeting its commitments.

On top of this, some business people in the wood industry have pointed out that clear objectives have not been defined for each of the three participating bodies in the scheme. With regards to the participant companies, there is insufficient awareness of the *Falcataria* product market, and therefore a lack of planning for what should be made and in what volume. Similarly, there is a lack of knowledge amongst tree growers regarding how to best manage the trees to harvestable age, and what to do with them once they have done so. Furthermore, there is evidence to suggest that many tree growers have been seeking plantation funds without any real intention of planting trees. If this is the case, the scheme is obviously open to abuse and potentially a moral hazard. Once the government commits to this kind of project, it is crucial that it has in place a system ready to simultaneously monitor progress and regulate its effective implementation.

3.3.2 A successful case of private initiative for *Falcataria* plantation development

Recently, Kutai Timber Indonesia (KTI), a part Japanese-financed wood company, has initiated a series of *Falcataria* plantation contracts with several private institutions (Table 3). KTI's partners include farmers, farm companies, local governments, highway administration companies and universities. In this way, KTI has launched new bilateral contracts with a broad range of institutions.

The contents of these contracts have been concluded on a case-by-case basis. Principally, KTI provides seeds and funds, guaranteeing the purchase of logs at the going market price at the time when the trees reach maturity (usually 6 years after planting). In return, KTI is ensured a 30 per cent crop share from its contracted partners. Guaranteed supply is vital for the successful realization of the business.

In addition to the establishment of bilateral plantation contracts, the company has also established its own plantation wood lots and nurseries. Some nurseries are used for experimental purposes.

Concerning the initiatives that KTI has undertaken with private institutions, the company president said in an interview,

"Short-term benefits are important. But more importantly, our activities are designated for educational purposes. We are hoping in the near future that local people will develop *Falcataria* plantations by their own choice. That would be a long-term return for our investment."

Compared to government-initiated plantation projects such as KUHR, KTI's initiative seems to be working much better. This is largely because the company has decided to shift its resource base from natural forests to *Falcataria* plantations, forcing the company to commit to the scheme very seriously. In other words, KTI has a clear objective in its plantation project. Besides, farmers and other partners also know exactly what they are going to get once their crop is harvested and when they are going to get it, which in turn supports the successful maintenance of plantation practices. This sequence of events is an important lesson for government agencies in determining the direction of future policy related to plantation development strategies.

4 Role of government in farm tree planting

In this section, the role of the government in the development of *Falcataria* plantations is discussed. The topics here consist of two components : i) resource development strategy and ii) market development strategy.

Table 3 KTI's Bilateral Plantation Contracts.

Partners: land owners	Agreed conditions	Crop sharing (% partner gets)
Farmers	KTI provides seedlings and plantation fund	70-90
Farm companies	KTI sells seedlings at one-third of market price	100
Local governments	KTI provides seedlings and labour for plantation	80
Highway administrations	KTI provides seedlings and plantation fund	70-80
Universities	KTI provides seedlings and plantation fund	80

4.1 Defining a strategy for resource development

As mentioned earlier, *Falcataria* plantations are found mostly on private non-forest land and are not managed to any predefined management programme. For the public sector, the first thing to consider is whether or not *Falcataria* plantations should be developed beyond these boundaries. Depending on the direction in which the government decides to go, different sets of political options will ensue.

4.1.1 Concentrating *Falcataria* plantations on unmanaged private land

If the government chooses to develop *Falcataria* plantations only on private lands, indirect measures to help farmers are an obvious political choice. Such indirect measures may include :

1. Enhancing knowledge on all aspects of *Falcataria* plantation management ;
2. Optimizing the combination of different plants in intercropping systems ;
3. Subsidizing farmers' tree plantations ;
4. Ensuring farmers' bargaining power against that of distributors (providing market information etc) ; and
5. Facilitating bilateral contracts (if similar systems to that of the KTI initiative are to be developed).

In the event that *Falcataria* plantations are developed as a matter of high priority in the context of a national tree plantation strategy, these are some of the basic political options for the public sector. Additional political consideration will be required if the government decides to develop *Falcataria* plantations on state lands.

4.1.2 Expanding *Falcataria* plantations onto state owned forest management land

Should the government choose to develop *Falcataria* plantations on state land, an additional set of policy instruments may be required. For example, because *Falcataria* has not traditionally been a preferred tree species h13 on PT Perhutani plantations, reasonable land use coordination with other tree species may be necessary.

Other considerations would involve the harmonization of state strategies with the activities of the private sector. For example, the combined output of private sector woodlots and state *Falcataria* plantations could, if inappropriately coordinated, result in oversupply. In that eventuality, state forests would be expected to regulate their output and so maintain the market in a stable condition. In order to do so, intensive market research would be vital on the part of the government. Also, strategic plans could be developed with manufacturers and exporters to find an optimal level of *Falcataria* log supply.

4.2 Defining a strategy for market development

There are several tasks that the public sector could undertake in order to further promote the development of the *Falcataria* product market. The areas in which the public sector could assume meaningful roles include the :

1. Creation of an information network ;
2. Organization of market research ;
3. Establishment of a reputation for eco-friendliness ; and
4. Formation of a competitive industry.

4.2.1 Creation of an information network

Information is a key to success in the promotion of the *Falcataria* industry. For example, since there are many consumer countries for *Falcataria* exports, collecting market information in each country is important in order to organize production strategies. Similarly, it is also important that information on domestic activities, such as plantations, distribution networks and production, be accurately compiled, organized and made accessible.

4.2.2 Organization of market research

Market information cannot be arbitrarily collected. Along with a solid research design, a systematic data

collection methodology should be established. Accordingly, *Falcataria* market movements should be monitored and reported.

4.2.3 Establishment of a reputation for eco-friendliness

As already discussed, *Falcataria* products have a number of strong characteristics which justify them as being eco-friendly. In this respect, the public sector could organize advertisement projects for *Falcataria* product and utilizing forest certification schemes may be a practical avenue to attain this goal. In particular, farm tree planting has been esteemed as one of the most favorable reforestation options for certification under the ongoing standard development scheme led by the Indonesian Eco-label Institute (LEI). Therefore, supporting the LEI process would be an astute way for the government to proceed.

4.2.4 Development of a competitive industry

There are various ways for the government to help industries remain competitive. For example, exemptions from some taxing schemes and/or application of deregulation measures often convey great advantages to companies. Also, the establishment of various schemes to attract investment is something that only the government can effectively do.

5 Conclusion

Compared with general trends in world wood markets, it is apparent that *Falcataria* products have a range of promising characteristics. Indeed, *Falcataria* can be used in the manufacture of products that are both high-value added as well as environmentally friendly. Although a domestic market in Indonesia has not yet developed for high value-added *Falcataria* products, increased investment is likely to create such a market in the long run particularly since there is presently a growing market for low-value added products. The presence of a strong local market is essential in order to encourage potential tree growers to start *Falcataria* plantations through their own undertaking.

Given the market appeal of *Falcataria* products, the encouragement of *Falcataria* plantations by means of various support measures should be viewed as a feasible development option for the government. However, given that information on the plantation resource is at present limited, it must be recognized that there is as yet no scientific bases upon which to develop further plans for the *Falcataria*-based industries or for *Falcataria* plantations. The public sector must as a matter of absolute priority establish an information network for *Falcataria* products. In the mean time, *Falcataria* plantations could be promoted, in a modest way, as private, unmanaged forests.

In any case, *Falcataria* plantation development should be incorporated into a larger project focusing on a national resource development strategy for Indonesia. For example, KTI has a very serious economic interest in a continual wood supply. As shown in Figure 6, the company is anticipating wood supply mainly from plantations, half of which is coming from public forests. For this company, having several resource bases is important in order to reduce risk. Correspondingly, it may be appropriate for the public sector to develop a combined wood supply system, sourcing timber from natural forests, private plantation forests (including farm plantations), and public plantation forests (or industrial plantations).

This document has dealt with *Falcataria* plantations in Java, emphasizing farm tree planting. A general conclusion for the foregoing discussion is that there are many positive aspects of the *Falcataria* plantations in Java. With respect to future research directions, however, a logical way forward would seem to be to test other tree species outside of Java Island. This should allow for a better understanding of the institutional relationship between industrial plantations and farm plantations, and so promote their better management. For example, it may be necessary to respond to questions such as : how might the potential roles of farmers be accommodated in huge plantations of other species such as *Acacia Mangium*?

As it is, this document has stressed the issues relating to land tenure and plantation systems. However, these two elements are not the only means with which to analyse resource development strategies in Indonesia. A more detailed appraisal of the issues more directly

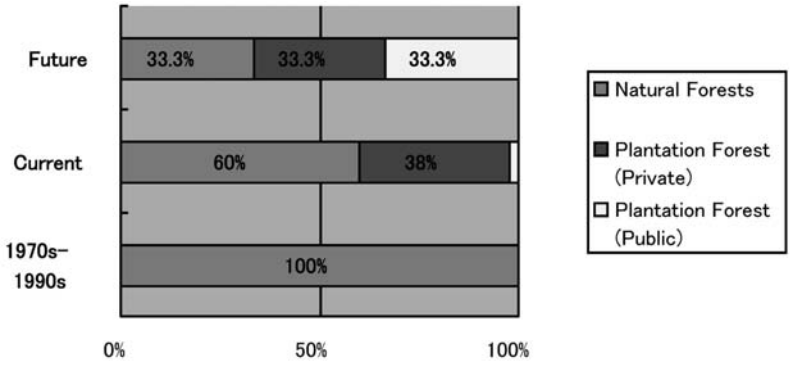

Fig. 6 KTIs wood supply base : past, present and future.

pertaining to the market would be also helpful. Themes may include issues such as development of market research methodologies ; use of forest certification for marketing ; and creation of various incentive measures to promote the development of tree plantations. In any case, in order to develop a resource development strategy for Indonesia, consensus building, through workshops involving the range of stakeholders, would now seem a necessary process.

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The Participatory Forestry Management System in Indonesia

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Abstract: Presently, the volume of illegally harvested logs far exceeds that of legally harvested logs in Indonesia. Participatory forest management is widely recognised as the most efficient method to meet the demands of sustainable forest management and sustainable utilization of forest products to support forest dependent people. However, sustainable forest management cannot be realized without mutual understanding and positive participation. In the decentralization process in Indonesia that started in January 2001, the role of local autonomy is being consolidated whilst that of participatory forest management is becoming more important. In order to analyze these themes, three topics are studied here : (1) the legal aspects of the participatory system and forest management ; (2) LEI and the Forest Accreditation Programme in Indonesia ; and (3) international treaties and agreements relating to the environment, with special reference to public participation. Under the first of these topics, an analysis of laws and regulations relating to the environment and forest management is presented. Chapter 10 of Forestry Act No. 41, 1999 provides for the rights and responsibilities of the community as well as the supporting role of the government in promoting community participation. However, subsequent Government Regulations need to be issued in support of this Act. Not only legal ambiguities but also a lack of legal support for participatory forest management still exist in Indonesia. In a consideration of the second topic, the development of LEI (Eco-label System in Indonesia), the tasks this programme must undertake, and the forest certification system in general are studied. Presently, there are various opinions relating to the LEI programme. Some are very positive but others are not. It could be said that the programme is still in the development process. In order to tackle illegal logging, both enlightened measures such as forest certification and regulatory measures such as sanctions must now be harmonized. A discussion of the international treaties and agreements in the area of the environment that Indonesia has already sighed is presented in a treatment of the third topic. It is true that various provisions for the enhancement of public participation relating to the environment can be found in international treaties and agreements. Through a domestication process, Indonesia has instituted many environment-related domestic laws and regulations. Both hard laws and soft laws are becoming important tools for enhancing public participation in forest management. Here, the Ramsar Convention is highlighted in a case study of public participation. Progress in international environmental law provides a good opportunity for a developing country such as Indonesia to develop its legal infrastructure for such public participatory management.

Key words : participatory forest management, public participation, *adat* law, LEI, forest certification system.

Introduction

Large-scale illegal logging in developing countries continues apace and is now of serious concern worldwide. According to media figures, two-thirds of the total volume of timber produced in Indonesian forests are derived from illegal operations. As such, sustainable forest management is now of immediate and pressing environmental significance in efforts to mitigate global warming, reduce the loss of biodiversity, as well as to support the sustainable subsistence of local people dependent on forests in developing countries. Tropical forest destruction is a global issue in the sense that the demand for timber comes largely from developed nations, and as such solutions cannot be found without international cooperation between developed and developing countries. However, issues surrounding the sustainability of the forest resource also remain of particular local concern in the sense that local people dependent on forests must develop their own methods for sustainable forest management.

In resolving these issues, however, it is clear that simply advocating a total logging ban is inappropriate and insufficient, since the forests and their products are a major source of income for those who depend on them economically and socially. This means that sustainable management in forestry cannot be realized without the understanding and the positive participation of local people. Participatory forest management is generally recognised as the most effective method to meet the objectives of sustainable forest management and forest resource utilization, and so support the demands of forest-dependent people.

However, sustainable forest management cannot be achieved by means of a participatory framework alone. Without the establishment of a comprehensive framework for the sustainable management of forests and the sustainable use of forest products in a broader sense, the protection of both the forest resource itself and the livelihoods of those dependent upon it cannot be achieved in the long run.

The lack of a comprehensive legal framework remains one of the most significant obstacles to the realization of a participatory forest management system in Indonesia. Legal pluralism is still prevalent in Indonesia, hampering the development of a unified law at the local level. *Adat* or communal, indigenous law is regarded as 'the living law' and as the most reliable legal structure throughout Indonesia, excluding Java, Madura and Bali Islands[1]. Despite its long history, Indonesia's legal system has not yet been universally integrated; national

legal reform is now being driven by the government of Indonesia as well as by those of overseas donor countries.

Generally speaking, three areas of uncertainty regarding Indonesia's legal system can be discerned: a lack of universality within the national legal system; the prevalence of *adat* laws; and the unpredictable course that decentralization may take in the future. Currently, formal forestry laws and an *adat*-based customary law co-exist in a dualistic legal system. Political change brought about by the drive towards democratization that has swept through the entire country resulted in the enactment in 1999 of two bills relating to decentralized governance and resource management.

Three salient concerns relating to sustainable forest management (SFM) can also be identified from a legal perspective in Indonesia. First is that the fragile participatory system is insufficiently supported by the formal legal framework. As a result, laws relating to forests have not been fully aligned and enforced. Second is that whilst *adat* laws are heavily relied upon at the local level to order communal life, they are ineffective in enforcing common standards in certain situations, such as modern financial transactions with external groups or individuals[2], as well as in preventing illegal logging. Third is that decentralization in Indonesia, a process that has been triggered by recent moves towards democratization, has spurred the devolution of environmental management authority to the regions. However, the lack of management capacity to cope with policy formulation and implementation, and the insufficient provision of regulations at the local government level, have become a matter of urgent concern as local governments emerge from 32 years of debilitating dictatorial rule under President Suharto.

In this article, three topics relating to public participation in forest management are analysed. These are:

(1) The legal aspects of the participatory system and forest management (Part I).
(2) LEI and the Forest Accreditation Programme in Indonesia (Part II).
(3) The domestication of international treaties and agreements relating to the environment, with special reference to public participation (Part III).

[1] These islands were placed under central rule during the Dutch colonial period.

[2] It sometimes happens that a village head agrees to provide concessions to illegal logging companies without appropriate prior consultation with local communities. Local people are thus excluded from any participatory process and do not have access to information regarding such crucial transactions.

1 Part I Legal aspects of the participatory system and forest management

1.1 Legal aspects of the participatory system

Participatory movements have accelerated in the general drive towards decentralization in Indonesia. According to Hutabarat[3], four types of decentralization can be distinguished; these are political, fiscal, economic and administrative decentralization. Political decentralization refers to a shift in emphasis from state to public decision-making. Fiscal decentralization focuses on granting greater financial responsibility to local governments and private organizations. Economic decentralization asserts privatization and deregulation by shifting economic control from the public to the private sector. Deregulation advocates a reduction in the legal constraints placed on the private provision of services and engagement in competition. Participatory movements in Indonesian forestry have gathered speed since the democratization process was triggered by the economic crisis of 1998, and as such should be analysed in the context of such a deregulatory movement. In order to effectuate the promotion of a community-based system for the management of Indonesia's forests, the legal foundations which support such a participatory system must first be strengthened.

1.2 Framework of the participatory system under national constitution and laws relating to the environment

In order to understand the basic structure of the participatory system in Indonesia, a clear picture of how decentralization has developed within the national constitution is required. Under the 1945 constitution, Indonesia adopted a unified governmental structure as a founding component of national philosophy. This stance had initially been declared in the historic Youth Pledge in 1928, which has since become the basis of Article 1 of the present constitution. In 1949, Indonesia briefly adopted a federal system of government (becoming the Federal Republic of Indonesia) under the direction of the Netherlands, though this was abandoned within a year and replaced by a unified republic.

Not until Act No. 22 on regional governance and Act No. 41 on forestry were promulgated in 1999, did central government delegate its authority over forest management to local governments as part of the broader process of decentralization. Article 11 of Act 22/1999 asserts in general terms that most functions, including those relating to forestry matters, be devolved to regency or district level. However, as Hutabarat points out, nine proposed government regulations on forestry approved for

[3] Silver Hutabarat. Forestry Developments with regard to Decentralization. The Indonesian Quarterly Vol. XXIX No. 2, 2001. pp. 151–158.

drafting, have not yet materialised[4]. In the absence of such regulations, local governments are unable to effectively enforce local regulations within a clear national framework. So as to gain a better understanding of the general framework of the participatory system under the present legal system, an assessment of the national constitution and relevant laws and other regulations related to the environment is presented.

1.2.1 The national constitution

The 1945 constitution states that Indonesia's natural resources are to be used to attain the maximum possible public prosperity. That is, natural resources, and thus prosperity, must be sustainably perpetuated for the benefit of current and future generations. Some of the political and legal issues currently constraining the wider promotion of a community-based sustainable ecosystem management, as identified by IGES's International Workshop report by Moniaga[5], are as follows:

- The politico-legal concept of Hak Menguasai Negara (HMN) or state control. This has been the root cause of a de-legitimization of indigenous and other local, community-based rights over natural resources
- Unequal legal access to natural resources at all levels
- Centralization of the decision making process
- A lack of substantive democracy

Article 33 (3) of the 1945 constitution states that "land and water and their natural riches are controlled by the State and are to be utilized for the maximum prosperity of the people". Moniaga suggests that this assertion of state control serves as the legal foundation upon which ultimate authority over land, forests and other natural resources has been maintained by central government (HMN). Moniaga refers to a "romanticism about the role of the state under the Constitution that is likely [to have] contributed to the formulation of the concept of HMN as the highest territorial rights over the land" and, furthermore, that "many legal scholars and practitioners still accept this romanticism". Both the Basic Agrarian Act (BAL) of 1960 and the Basic Forestry Act of 1967, which was drafted in line with national development policy and facilitated the commercialisation of the forest resource, further empowered the state with regard to resource use. Specifically, Article 5 of the Basic Forestry Law of 1967 states that authority over all forest areas in Indonesia is held by the government. This has served as a tool to legitimize the claims of the State to ownership of the forest resource and so dissolve the land rights of local communities, an aspect criticized by certain observers[6].

The constitution declares a centralized, unified governmental regime as the guiding principle of the Indonesian political system, concentrating ultimate authority in the hands of central government. During the 32 years of Suharto's dictatorial rule, which continued until 1998, governmental power lay with the executive branch of the government. Within such an authoritarian political structure, constitutional principles such as distribution of power and the independence of the judiciary were ignored, and democracy was not guaranteed. Although the Basic Act on Local Governments was enacted in 1974, no decentralizing shift in power from central government to local authorities materialized, despite the provision of "decentralization" and "local autonomy" in Article 3. Rather, it served as a political exercise, extending the reach of the State over regional governments.

Following the fall of Suharto in 1998, President Habibie's government introduced MPR Resolution No. 15 of 1998 on Local Autonomy via the People's Consultative Assembly (MPR), and amended Articles 18, 18A and 18B of the 1945 Constitution in the second of two constitutional amendments made in 2000. Decentralization in the structure of government began in a horizontal manner, though local autonomy was introduced to accelerate democratization in a vertical manner at the local level. This was done so as to promote the active participation of local citizens in the work of local governments. Local autonomy under a unified system of government is not viewed as being contradictory, and therefore the introduction of such decentralization is regarded as being compatible with the framework of present constitutional law.

Regional autonomy is administered only at the province, regency and municipal level, and governors, regents and mayors, their respective heads, are elected in a democratic manner by general election. Article 18A defines the basic relationship in terms of the distribution of authority between central and local governments, as well as the relationship between regional governments. The relationship between central and regional governments on issues relating to finance, public services and the utilization of natural and other resources, is regulated by law.

1.2.2 Regional autonomy acts of 1999

Local autonomy has been brought about by two fundamental pieces of legislation, both enacted in 1999; these are Act No. 22 on Regional Autonomy and Act No. 25 on Financial Balance between Central Government

[4] These are: forestry planning; forest management; urban forests; *adat* forests; forestry research & development, education, training and extension; people's participation in forestry management; forest reclamation and rehabilitation; forest protection; forestry control / inspection. Ibid., p. 155.

[5] Sandra Moniaga. Advocating for Community Based Forest Management in Indonesia's Outer Islands: Political and Legal Constraints and Opportunities. A paper presented at an IGES International workshop. Seven issues are pointed out in the original article, of which four are quoted here.

[6] Mia Siscawati. Underlying Causes of Deforestation and Forest Degradation in Indonesia: A Case Study on Forest Fire. IGES International Workshop Paper, pp. 52–53.

and Local Governments. As defined in Article 1 of the Regional Autonomy Act, "decentralization" means the transfer of authority from central government to the autonomous regions, though within the framework of the unified state of the Republic of Indonesia. Furthermore, in the preamble to the Act, it is stated that "in the implementation of regional autonomy, it is essential that the principles of democracy, the participation of the people, the equitable distribution of welfare and justice, and the awareness of the potential and diversity of the regions be emphasized".

Under Act No. 22 of 1999, not only provinces but also regencies (*Kabupaten*) and municipalities (*Kota*) have become autonomous. Districts (*Kecamatan*), sub-districts and villages within a given regency no longer form part of the central government hierarchic structure. Article 10 states that "the Region has the authority to manage natural resources that are within its territory and is responsible to ensure a sustainable environment in accordance with existing legislation".

The responsibilities of a province encompass both those issues which are of cross-district and cross-municipal significance[7], as well as those which cannot or have yet to be implemented by constituent regencies or municipalities (Article 9). Regencies and municipalities have authority over public works, health, education and culture, agriculture, communications, industry and trade, investment, environment, land affairs, cooperatives and manpower (Article 11).

The latter Act No. 25/1999[8] regarding the balance of fiscal authority between central government and the regions defines the sources of regional revenue as: Original Regional Revenues; Balance Funds; Regional Loans; and Other Legal Revenues. For the purpose of implementing decentralization, funds are allocated from the APBN or national budget (Article 2). Original Regional Revenue sources are outlined in Article 4[9]. The Balance Funds[10], including the General Allocation Fund and the Special Allocation Fund, that originate from the national budget (APBN) are allocated to the regions (Article 6〜10). Regional Loans to finance some part of the regional budget may also be issued with the approval of APRD (Article 11). In order to meet pressing requirements, Emergency Funds may also be sought from the APBN (Article 16).

Government Regulation No. 25 on the Authority of the Central Government and the Authority of a Province as an Autonomous Region was enacted in 2000 to regulate the details of Act 22. Under this piece of legislation, authority over the use of natural resources on a macro-basis lies with central government. The following is a list of responsibilities assigned respectively to central government, the provinces and the regencies, which pertain to the environment and forestry (Articles 2〜4, Government Regulation No. 25/2000).

1.2.2.1 Responsibilities of Central Government with regard to the environment and forestry (including plantations)

With regard to the environment, the Central Government has the authority to:

a. Specify guidelines for the management of natural resources and the preservation of the functions of the environment.
b. Regulate the management and utilization of marine resources situated in waters over 12 miles from the coast.
c. Make an assessment of the environmental impact of activities that may potentially exert adverse effects on the community in general; pose a threat to national defense or security; impact on locations which straddle provincial boundaries; impact on locations in areas disputed by other states; impact upon marine localities within 12 miles of the coast; or impact on localities at international borders.
d. Specify standards for environmental quality and

[7] Examples of cross-regency and cross-municipal responsibilities are public works, communications, forestry and estates. Environmental control is also regarded as a province level responsibility in certain administrative areas (Elucidation, Article 9 of Act No. 22/1999).

[8] The main objectives of Act No. 25/1999, according to its Elucidation are to: (a) utilize and improve regional economic capabilities; (b) create a regional financing system that is just, proportional, rational, transparent, participatory, accountable and correct; (c) realize a fiscal system that is balanced between Central Government and the Regions such that it reflects the division of authority with regards to public responsibilities. This fiscal system should be fully accountable, support the execution of regional autonomy by organizing a regional government, lessen the discrepancy between regions in terms of their ability to finance their autonomous responsibilities, and provide assurance of regional financial sources that originate from related regional areas; (d) become a point of reference for a region in the allocation of national revenue; (e) consolidate the regional government financial accountability system; and (f) become a main point of reference in regional finance.

[9] Regional financial sources that are derived from related regional areas consist of regional taxation revenues, regional retribution revenues, separate regional wealth exploitation revenues and other legitimate basic regional revenues.

[10] The Balanced Funds are a financing source derived from the following taxes (as well as from the General Allocation Fund and the Special Allocation Fund) and allocated to the regions: the Land and Building Tax; customs levied on obtaining rights to land and building; revenues from natural resources. Regional shares are allocated on the basis of each region's production potential. However, the regional share derived from revenue gained on natural resources in the forestry, general mining and fishery sectors are issued by central government as dictated in Article 6. See also Sjafrizal's 'Some Possible Impacts of Regional Autonomy: The West Sumatra Case' (The Indonesian Quarterly, Vol. XXX, No. 1. 2002. pp. 85).

regulate against environmental pollution.

e. Specify guidelines for the conservation of natural resources.

f. Specify guidelines for the management and protection of natural resources.

With regard to forestry (including plantations), the Central Government has the authority to:

a. Specify criteria and standards for the management of forests, nature reserve areas, nature conservation areas, hunting grounds and plantation areas.

b. Specify criteria and standards for the inventory and use of forest areas, nature reserve areas, nature conservation areas and hunting grounds.

c. Preside over the gazetting of forest areas and over changes made to their status or function.

d. Specify criteria and standards for management of forest areas, nature reserve areas, nature conservation areas and hunting grounds.

e. Define the terms of management of nature reserve areas, nature conservation areas and hunting grounds, including the river systems within them.

f. Draw up national plans for the management of forests and the development of plantations as a primary industry, as well as guidelines for land rehabilitation and soil conservation, and define boundaries for land planning and control.

g. Specify criteria and standards for the setting of tariffs and contributory fees for forest utilization business licenses, first resource royalties, reforestation funds and investment funds for forest conservation expenses.

h. Specify criteria and standards for the production, processing, quality control, marketing and distribution of forest and plantation products, including seedlings, fertilizers and pesticides.

i. Specify criteria and standards for licensing procedures of forest area utilization, the utilization and collection of forest products, the utilization of environmental services, the operation of nature-related tourism, the operation of hunting grounds, hunting activities, captive breeding of fauna and flora, conservation and estate operations.

j. Authorize business licenses on hunting grounds, hunting activities, conservation institutions and captive breeding programmes of protected fauna and flora, as well as implement the management of nature reserves and nature conservation areas as hunting grounds, including the river systems within them.

k. Authorize licenses for cross-provincial nature-related tourism businesses and other businesses which utilize forest products and services.

l. Specify the criteria and standards for management of forest areas including plantations, incorporating all elements of their utilization, maintenance, rehabilitation, reclamation, restoration, supervision and control.

m. Specify criteria and standards for the conservation of ecosystems and their component biodiversity, encompassing sustainable protection, preservation and utilization in a forestry context.

n. Specify the procedures and standards for the management of wild fauna and flora and their habitats, with particular reference to animals migrating over long distances.

o. Issue licenses for the utilization and movement of protected flora and fauna and those listed in the appendices of the Convention on International Trade in Endangered Species (CITES) of Wild Fauna and Flora.

p. Specify criteria and standards for the establishment of management principles of and measures safeguarding against natural disasters occurring in forest and plantation areas.

1.2.2.2 Responsibilities of the Province with regard to the environment and forestry (including plantations)

With regard to the environment, the Province has the authority to:

a. Preside over cross-regency and cross-municipal environmental issues.

b. Specify environmental regulations for the management and utilization of marine resources situated between four to 12 miles from the coast.

c. Specify regulations and safeguards for the conservation of water resources across regencies and municipalities.

d. Make an assessment of the environmental impacts (AMDAL) of activities which potentially exert adverse impacts on the community in general or whose location encompasses more than one regency or municipality.

e. Exert control in the implementation of conservation programmes across regencies and municipalities.

f. Specify environmental standards on the basis of national environmental standards.

With regard to forestry (including plantations), the Province has the authority to:

a. Specify guidelines for the inventory and mapping of forests/plantations.

b. Determine and safeguard the boundaries of production forests and protection forests.

c. Specify guidelines for the implementation of a forest boundary system, and revise the boundaries of production forests and protection forests.

d. Establish a zoning system in areas where plantations cross regency or municipal boundaries.

e. Specify guidelines for the establishment or extension of support for the management of great forest parks.

f. Impose a system for the division and control of land and primary resources in the design of plantations which cross the border between regencies

or municipalities.

g. Draw up macro plans for forestry operations and plantations that cross regency or municipal boundaries.
h. Specify guidelines for the management of erosion, sedimentation and land productivity in river systems that cross regency or municipal boundaries.
i. Specify guidelines for the rehabilitation and reclamation of production forests and protection forests.
j. Issue licenses for cross-regency/municipality plantations, operations engaged in the utilization of timber-based forest products or non-protected flora and fauna, and other operations processing forest products.
k. Supervise the use of seedlings, fertilizers, pesticides, tools and machinery in the forestry and estate sector.
l. Preside over the observation and modeling of plant pests and over integrated pest control programmes undertaken on forestry and plantation plants.
m. Preside over the rehabilitation, reclamation, silviculture, cultivation and processing of forests and plantations.
n. Preside over the management of cross-regency/municipality great forest parks.
o. Specify guidelines for determining the tariffs levied on the utilization of non-timber forest products collected from cross-regency/municipality sites.
p. In cooperation with the central government, define the area, function and status of forests, and preside over changes made to them, in the framework planning and spatial design of a province based on an agreement made between a province and its constituent regencies/municipalities.
q. Specify guidelines for the protection and safeguarding of forests in cross-regency/municipality areas.
r. Provide support for the implementation of education and technical training programmes, and for applied research and development in the forestry sector.

1. 2. 2. 3 Execution of Regency/Municipality responsibilities which relate to the environment

Regency/municipality responsibilities may be transferred to the ward of the province where full authority has yet to be or cannot be undertaken by the regency/municipality itself, as defined in Article 3 (2). This process is regulated by the following terms:

a. A regency/municipality that has yet to or is unable to exercise one or a number of its authorities, may cooperate with other regencies/municipalities in order to do so, or may hand over responsibility to the province.
b. The execution of an authority by means of cooperation with other regencies/municipalities or the handing over of responsibility to the province must be based on a decision made by the head of a regency/municipality with the approval of the regency's/municipality's legislative assembly.
c. A regency/municipality head is obliged to submit his decision on the handing over of responsibility to the province to the governor and the President, with an additional copy addressed to the regional autonomy advisory council.
d. Having obtained input from the regional autonomy advisory council, the President may approve or disapprove of the handing over of the said authorities.
e. In the event that the President gives his approval, authority over the matter must be exercised by the province.
f. In the event that the president fails to give his approval, authority over the matter must be exercised by the regency/municipality.
g. In the event that the President does not give any response within a period of one month, the handing over of the said authority is considered as having been approved.
h. In the event that responsibility is transferred, the province as an autonomous region must exercise the said authorities using funds allocated from the central and regional administrations.
i. In the event that the province is incapable of exercising authority in the matter, the province shall hand over responsibility to the government by the same mechanism set forth in items c - h.
j. In the event that a regency/municipality resumes its capability of handling a transferred responsibility, the province or the government is obliged to return them to the regency/municipality without seeking the president's approval (Article 4).

A number of problems and ambiguities remain within the system for consolidating regional autonomy in Indonesia, as pointed out by various domestic and international NGOs and donor institutions[11]. Some of the ambiguities relate to the balance of authority between provinces and regencies/municipalities, difficulties in interpreting the regulations, the duplicity of legislation and so on. Correspondingly, MPR Resolution No. IV/2000 officially proposed an amendment to Act No. 22/1999, whilst MPR Resolution No.VI/2002 asserted that the regional autonomy acts were not being fully enforced and that they had brought about the duplication

[11] For example GTZ, World Bank, Smeru and Infid point out related issues and problems on local autonomy in Indonesia. World Bank proposes four recommendations on the management of natural resources in Indonesia (World Bank. Indonesia: Environment and Natural Resource Management in a Time of Transition, 2001. pp. 121). LIPI team also submitted a revised draft of Act No. 22/1999 (Jakarta Post Oct. 29, 2002).

of roles and responsibilities between governmental organizations, loopholes in the application of laws, imbalances between local governments and other legal uncertainties. In response to such claims, the Ministry of Home Affairs stated at the Donors' Meeting on 26th September 2002 that it would carry out a detailed survey of local autonomy in 20 regions and conduct legal discussions after evaluating the data[12]. However, Minister Oentart S. Mawardi, Director General of the Ministry of Home Affairs, stated that although the MPR had recommended that legislation be better coordinated, political decisions to revise the regional autonomy acts have yet to be made[13].

1.2.3 Environmental Management Act of 1997

As an amendment of Act No. 3 of 1982, Act No. 23 concerning environmental management was enacted in 1997, to provide for the basic principles of environmental management. It also outlines the basic framework of the participatory forest management system with regards to individuals, groups and the community.

Article 5 of the Environmental Management Act stipulates that all groups and individuals are entitled to the following environmental rights: (1) the right to a good and healthy environment; (2) the right to access environmental information; and (3) the right to play a role in the various schemes of environmental management. On the other hand, groups and individuals also bear the following environmental obligations: (1) to preserve the continuity of environmental functions and protect and combat environmental pollution and damage; and (2) provide true and accurate information regarding environmental management in relation to any business or other activity undertaken.

With respect to the role of the community regarding environmental management, the Act seeks to ensure that "the community has the broadest possible opportunity to play a role in environmental management". In order to realize this role, the Act identifies the following principle aims: (1) to increase independence, community empowerment and partnership; (2) to develop community capacities and initiatives; (3) to increase community responsiveness in carrying out social supervision; (4) to provide suggestions for community-based environmental management; and (5) to provide information and reports on the various forms of environmental management.

Furthermore, this basic Act makes clear that the government must always take into account the religious values, culture, traditions and life styles of the different communities in determining national policies on environmental and land management. This is dependent on an increased environmental awareness in relation to the various communities. As the Elucidation to the Act states, "..awareness of the communities has rapidly increased, as indicated among other things by the increase in the number and variety of community organizations. ... Also evident is the rise in community initiatives to preserve environmental functions, such that the community does not merely participate, but is also able substantially to play a role". In this Act 'community participation' is defined as the participation 'in efforts and in the decision making process concerning preservation of environmental support systems and carrying capacity" (Elucidation, Article 10)[14].

1.3 Decree on Environmental Impact Assessment of 1999

According to Presidential Decree No. 10 on Environmental Impact Management of 1999, one of the functions served by AMDAL is, as stated in Article 3, to improve participation of all environmental partners in environmental impact control and the voluntary management apparatus. Article 11 (part four of the Decree on the Institutional Capacity Building, Human Resources and Environmental Partners), places particular importance on environmental partnerships. Under this article, a specific role, termed Deputy I, is assigned the task of improving the participation of environmental partners in terms of raising public awareness for environmental impact control. Article 19 stipulates that an analogous Deputy IV is assigned the task of ensuring law enforcement, resolving environmental disputes and coordinating development, and implementing, monitoring and evaluating the voluntary environmental management apparatus.

1.4 The participatory system under forestry law

1.4.1 Historical development of the participatory system

In the colonial period, the Dutch Governor General legalized a state forestry regime, whereby the use of forests that belonged to the State or the use of any forests based on *adat* law was punishable. This system, typical of colonial land use law, continued until the enactment of Basic Agrarian Act No. 5 in 1960.

The legal framework for the system of forest management adopted in the early days of Suharto's 32 year period of dictatorial regime is embodied by two basic acts. The first is the Foreign Investment Law of 1967, which emphasized the export of logs with minimal or no processing in order to achieve rapid economic development. Later, the export of raw logs was prohibited. The second piece of legislation is the Basic Forestry Act of 1967, under which the central government became the

[12] Ministry of Home Affairs, Republic of Indonesia. Consultative Group on Indonesia; 3rd Quarterly Review, Sept. 26, 2002.

[13] "Tak Ada Revisi UU Otonomi" (http: //www.kontan-online.com/html/politik.html.).

[14] Participation is defined as "a process through which stakeholders influence and share control over development initiatives and the decisions and resources which affect them" (The World Bank Participation Sourcebook).

sole authority in controlling all kinds of forest land. Under the Basic Forestry Act, community-based rights to forests were annulled. That is, where the government wished to exploit any particular forest area, community rights could be neglected in order to access the forest resource at any time and place[15]. The Basic Agrarian Law of 1960 further empowered the Ministry of Forestry to determine and regulate legal relations between individuals and corporate bodies and forests, and deal with legal activities related to forests. It is therefore no exaggeration to say that the stance of forest policy in the 1960 s was simply a continuation of colonial policy as first spelled out in the Agrarian Act of 1870 under the Dutch - though this piece of policy had at least recognized customary law as a basis for national land law[16].

Government Regulation No. 62/1998 regulates the transfer of some of the central government's functions in relation to forest management to local governments. This has been succeeded by Government Regulation No. 6/1999, which stipulates the terms of forest management (HPH) and the rights for forest products utilization (HPHH). HPHH permits to forest lands not exceeding 100 hectares may be granted to the public, to cooperatives, state enterprises, regional state enterprises and private companies. *Adat* communities have also been allowed to take forest products for their daily needs within concession areas. Concession holders must allow for the widest possible participation of communities within their areas, informing them of planned activities and providing opportunities to take part in forest activities[17]. However, this permit system was replaced by the Minister of Forestry's Decree No. 310Kpts-II/1999, which was in turn superceded by Minster of Forestry's Decree No. 084/Kpts-II/2000, and then again by Minister of Forestry's Decree No. 5.1/Kpts-II/2001 on the Standardization and Criteria of Permits for wood-based forest products exploitation and for wood-based forest products collection (IUPHHK and IPHKK)[18]. When the two basic Acts on decentralization were enacted in 1999 (i.e. UU No. 22/1999 and UU 25/1999 regarding respectively local autonomy and the balance of financial authority between central government and local government), these regulations were subsumed under the present Forestry Act No. 41/1999.

[15] http: / / www. Forestsandcommunities. org / Country — Profiles/Indonesia.html

[16] Owen W. Lynch & Kirk Talbott. Balancing Acts: Community-based Forest Management and National Law in Asia and the Pacific. World Resources Institute, 1995. pp. 52–53.

[17] John F. McCarthy. The Changing regime: Forest and Property Reform in Indonesia, Development and Change. Vol. 31 No. 1, 2000. pp. 121.

[18] H. Syaukani H. R. The Implementation of Decentralization in the Forestry Sector within the Framework of Sustainable Forest Management in the District of Kutai Kertatanegara. Indonesian Quarterly Vol. XXIX No. 2, 2001. pp. 148.

1.4.2 Forestry Act No. 41 of 1999

Chapter 10 of Forestry Act No. 41 of 1999 concerns the roles and objectives of social participation in forestry; Article 68 provides for the rights of the community as follows:

1. Society has the right to enjoy environmental quality as derived from forests.
2. Communities have the right to utilize forests and their products according to the relevant laws.
3. Communities have a right to knowledge and information regarding plans for benefit sharing in relation to forestry and forest products.
4. Communities have the right to offer information, advice and ideas regarding forest development.
5. Communities have the right to oversee forest development, either directly or indirectly.
6. Communities affected by forestry operations and by forest disappearance may seek compensation for losses.
7. Individuals who have lost rights to property as a result of a decision to develop a forest area have the right to seek compensation in accordance with law.

Article 69 outlines the responsibilities of the community in taking care and protecting the forest resource from damage and destruction. In order to protect and rehabilitate forest areas, communities can request the support services of NGOs, the government or other third party.

Article 70 esteems the community in playing a role in the development of forestry. Under it, the government is responsible for supporting the participation of communities in forest-related activities which promote efficient and productive objectives. In order to develop the role of the community in participatory projects, national and local government may seek the assistance of the Forestry Stakeholders Forum. An additional Government Regulation on this matter is expected.

Whilst Article 68 of the Forestry Act provides for the rights of the community, Article 69 stipulates their responsibilities. Article 70 relates to the supporting role of the government in promoting community participation. Both a community's capacity to participate in forestry development and the supporting role the government must play in promoting this are likely to be enhanced by subsequent Government Regulations. However, environmental law in Indonesia still faces many problems relating to the inefficiencies and ineffectiveness of its enforcement. The following is a list of legal issues which currently constrain environmental law enforcement in Indonesia, as identified by WALHI, an influential environmental NGO in Indonesia, at a seminar on the 'country assessment on the implementation of the Earth Summit' in January 1997.

1. The gap between concept and implementation. Typically, once policies have been discussed and legalized, further problems which may arise in their implementation are neglected.
2. The lack of an integrated and holistic working

framework. The existing development approach is sector-oriented and individualistic, rather than universal, in nature.

3. The patriarchal bias in Indonesian politics. This does not sufficiently allow for the development of civil society.

4. The lack of human resources in the civil services.

5. A weakness in law enforcement and dissemination of information to the public, especially with regard to environmental law, and the interdependence of the legal and political systems.

6. A highly centralized system of government which is not appropriate to Indonesia's geography and population.

7. The greater emphasis placed on economic interests above environmental and social concerns.

Critically, 'legal pluralism', whereby different legal systems co-exist together in different regions and with respect to different aspects of law, remains prevalent in Indonesia. Amongst forest-dependent communities, both formal forest law as well as *adat* law may be simultaneously in use. Now, amid the development of the legal process itself, as well as of the formal forestry law provided by government, customary *adat* law is being increasingly integrated. However, the fragility of the formal national legal system remains one of the most serious problems facing the development of an equitable and universal law.

2 LEI and the forest certification system in Indonesia

2.1 The eco-label system in Indonesia (LEI)

2.1.1 Development of the forest certification system

Forest certification became a matter of intense discussion in the late 1980s when environmental NGOs (including for example Friends of the Earth, World Wildlife Fund and Greenpeace) started their green label campaigns against tropical forest destruction. Such NGOs lobbied ITTO, the body which represents the international forestry industry. ITTO agreed at the Bali Conference in 1990 that all tropical wood traded should come from sustainably managed forests by the year 2000, and began conducting studies on developing guidelines, criteria and indicators for Sustainable Forest Management (SFM). However, at that stage it did not proceed beyond an academic concern. Nonetheless, in 1993 the Forest Stewardship Council (FSC) was founded with the support of WWF, other environmental groups and several corporations such as the British retailer B & Q. In 1995, FSC became a legal entity and accredited four independent certifiers to audit forestry operations and award forest certificates.

The aim of the certification system is to make timber production more ecologically and socially responsible, as well as economically viable, by grading timber sources to allow consumers to choose on these grounds[19]. The certification system was quickly accepted as one of the most promising instruments with which to realize sustainable forest management. Around 90 million hectares of forests in 35 countries have now certified, including 20 million hectares under the Forest Stewardship Council scheme.

In response to the FSC initiative, various alternative certification schemes emerged. Presently, there is no unified certification system based on common principles for sustainable forest management and different forest certification schemes and initiatives are under development throughout the world[20].

At the Earth Summit Conference in Rio de Janeiro in 1992, the world failed to reach agreement on the forest convention supported by G7 and FAO. Chapter 11 of Agenda 21 underlines the need for the rapid development of SFM Criteria and Indicators and recommends that UNCSSD be established as an intergovernmental panel on forests to promote inter-disciplinary dialogue on an international level.

2.2 Development of Lembaga Eko-label Indonesia (LEI)

The Indonesian government formulated IFAP(Indonesian Forestry Action Plan)in 1992 for the purpose of

[19] Certification (source: http: //www.gn.apc.org./dte/Ccert.htm)

[20] Various efforts at the international and governmental level have been made. The Nordic Forest Certification scheme was launched in 1995 by six main organizations representing forest owners and forest industries of the Nordic countries. In the US, the forestry organization A.F. & P.A. drew up a joint policy for sustainable forest management; the SFM policy of the Forest Stewardship Council (FSC) is also widely accepted. The FSC is a forest certifying organization based in Mexico with ten fundamental principles for SFM. ISO (International Organization for Standardization), as part of its ISO 14000 system, is working on developing a forest certification system with Finland, Norway and Sweden. The Eco Management and Auditing Scheme (EMAS) of the EU has been examining the possibility of standardizing forest certification. In addition to these, there are also a variety of forest certification schemes under development throughout the world. Some of the major ones are CSA (Canadian Standards Association), SFI (Sustainable Forestry Initiative) and PEFC (Pan European Forest Certification). Furthermore, national certification schemes are also being developed in many countries. These national approaches are classified into five categories: (1) processes common to several stakeholders, as in Finland, Norway, Canada and Malaysia; (2) voluntary action models created by industry, as in the US and Indonesia; (3) standards developed by national certification bodies, as in Indonesia, Ghana and Brazil; (4) FSC national certification standards, as in Sweden, the UK, Bolivia and Brazil; (5) labeling schemes developed by countries importing the products, as in the Netherlands and Germany. (Source: Background Information on Forest Certification:
http: //www.ffcs-finland.org/eng/esittely/taustatiedot/sertifiointijarjestelmat—e.htm)

developing sustainable forest management, and established a consultative group to discuss HPH (logging concessions) and HTI (industrial timber estates). In 1993, the government issued decrees on Criteria and Indicators (C & I) for SFM and Technical Guidelines for Forestry Management (No. 252/1993, No. 576/1993, No. 610/1993 and No. 208/1993). In addition, some Ministerial Decrees on punitive measures were provided (No. 493/1989, No. 393/1994).

LEI was established in 1994 as a non-governmental independent forest certification organization with the support of the Indonesian government. Dr. Emil Salim, as Minister of the Environment, established a working group on LEI whose duty it was to define a set of C & I for SFM and to design a decision-making process within the certification system as well as a formal institutional arrangement for LEI. LEI officially obtained juristic status on 6th February 1998. LEI subsequently developed its own certification C & I for SFM which were agreed upon and accepted in mid-1998 by the industry and the government; these were revised in 1999 and now form the foundation of the Indonesian eco-label scheme. The Indonesian National Standardization Agency has since adopted the principles developed by LEI as the official guidelines for SPFM (Sustainable Production Forest Management).

The mission of LEI is to[21]: (a) develop the SPFM certification system; (b) develop an accreditation system to monitor the implementation of credible environmental and SPFM certification systems; (c) develop the capacity of HRD and environment and natural resource management certification systems; (d) ensure the correct implementation of eco-labeling certification systems; and (e) to encourage the development of policy relating to sustainable environmental and natural resource management.

For the development of SPFM, the principles of LEI's certification system[22] make specific reference to the following elements: (a) voluntary input; (b) the establishment of a multi-stakeholder participation process; (c) the application of standards that meet principles internationally agreed upon; (d) transparency in the decision-making process; and (e) implementation by an independent third party.

The certification programme is intended to foster change in forest management principles and thereby create a supply of sustainably produced timber. For this purpose, forest certification systems must aim "to make timber production more ecologically and socially responsible and economically viable by grading sources so that consumers can choose on these grounds"[23]. In a broader context, however, certification systems should be recognised as one of several complementary measures, including political and legal measures, to solve forest related problems. The eco-label procedure is voluntary and the auditors may request the submission of full documentation including annual management plans and reports for examination before the field inspection is conducted. The inspection criteria include social and environmental indicators as well as those relating to production, administration and financial management. Local communities can also contribute to the assessment process. Certificates are good for 5 years though they can be withdrawn prior to expiry if the conditions are not satisfied[24].

2.3 Joint recognition process with FSC

Two major forest certification systems exist in Indonesia: the LEI scheme and the FSC Scheme (Forest Stewardship Council Scheme). Although these two systems are different in origin and have been developed independently, discussions began in 1994 to reach an agreement on a joint certification programme (JCP). In September 1999, LEI and FSC signed a memorandum of understanding (MOU) and produced a Joint Certification Protocol on 20th September 2000. As a result, FSC and its accredited certification bodies, and LEI and its assessors, now carry out joint evaluations using both FSC-accredited assessment systems and the LEI's criteria and indicators. FSC requires certification bodies to take account of regional and national standards and so any certificate awarded must comply with both sets of requirements. However, as the elements of either system

[21] Ecolabel News (Warta Ekolabel). LEI Quarterly News Letter, Vol. 1 p. 20, August/October 2000. See also the attached Appendices: list of LEI standards; the certification process; MOU between LEI and FSC; JCP between LEI-accredited certification bodies and FSC-accredited certification bodies; certification systems in Indonesia; and FSC Principles.

[22] Ibid (Ecolabel News), p. 3 and p. 20.

[23] http: //www.gn.apc.org/dte/Ccert.htm. According to the paper 'Forest Certification and Ecolabeling of Indonesian Forest Products' by M.P.L. Tobing, wood ecolabeling schemes are unlikely to be viable in Indonesia unless: (a) they are market-driven and cost-effective; (b) wood sources can be traced from forest to product (chain of custody); (c) the price of labeled products and other market signals of sufficient strength feed back to forest managers; (d) they are objective and practical, credible and reliable; (e) they are operated on a voluntary basis for concession-holders; and (h) they are non-exclusive, i.e. not based upon the certification principles of a single, government-approved agency, such as LEI: ".. ideally, the system should develop along the lines of the ISO 9000 quality assurance scheme which allows both state and private enterprise certifiers.." (Mimeo, Jakarta, 2001, p. 5). Furthermore, this paper proposes the following options for policy reform such that a credible and practicable forest certification and ecolabeling scheme may develop in Indonesia: (a) open entry into the privately-funded ecolabeling service industry; (b) increased government demand for certification services; (c) the development of a viable LEI system; (d) deregulation of opportunities for certified management units; and (e) voluntary certification.

[24] ibid.

are different, efforts are being stepped up to make specific rules governing the joint certification programme and so harmonize LEI and FSC systems[25].

According to the MOU agreed on between LEI and FSC in 1999, FSC[26] hopes to develop a role for itself in system maintenance and the supervision of certification system implementation, capacity building and the accreditation of certifiers. It is also intended that FSC will provide certification services for newly developed certification systems and assist LEI to prepare Indonesian organizations and companies that are interested and ready to function as forest certifiers. For this purpose, all LEI's Criteria and Indicators will be used by all certification bodies operating in Indonesia, while LEI and FSC will continue to collaborate in the review of LEI's standards and certification systems.

All formal certification assessments must be publicly announced in the first instance both electronically and through the media. Certifiers must gather information from all stakeholders, including local communities, civil society groups and companies, before a company's operations can be certified. The certification team should meet with stakeholders during the field assessment and hold a public consultation. Inputs may be verbal or in written form, conveyed via email, fax or letter, and can be submitted to the certifiers at any time after the potential certification has been announced. Companies often ask certifiers to make an initial visit in order to advise them on how much work they must do to be eligible for full certification assessment. These 'scoping visits' are usually confidential and are not announced in advance. Any stakeholder can formally challenge a certification decision under both the FSC and LEI systems, if, for example, a community feels that there has not been adequate consultation or that the company is not respecting its customary rights.[27]

Out of ten applicants, four companies had been granted interim accreditation by LEI as of July 2000. These are PT TUB International, PT Superintending Company of Indonesia, SGS Indonesia and PT. Mutu Agung Lestari. Under the joint certification system, the LEI system is presently regarded as being in a development stage, with its principles of forest certification being supported by FSC. Although LEI's C & I are made public through its own set of guidelines, there remain many inadequacies in the system with regard to representing a substantial counter-measure to illegal logging. Nonetheless, LEI's eco-label system should be viewed not as a comprehensive legal instrument, but as a developing regulatory body and a complementary tool which operates at the market level with the support of a well-informed, environmentally aware public.

2.4 Comment and opinion

The following is a list of general comments pertaining to forest certification, based mainly on material collated from the internet by the author.

(a) The standards of LEI certification are becoming more demanding than those of FSC. LEI does not allow its accredited certifiers to provide certification for any operations which convert natural forest to non-forest uses such as palm-oil plantations or settlements, even where conversion is regarded as legal. Whilst LEI are taking a firm stand against illegal logging, social criteria such as the recognition of rights to tenure are not being made sufficiently stringent. Decision-making structures are not open and transparent. (Source: http://www.gn.apc.org/dte/Ccert.htm, June 2001).

(b) At a meeting involving a number of Indonesian NGOs on 21st April 2001, an official statement questioning the certification of forest concessions in Indonesia was issued, highlighting the concession system's basic disregard for native customary (*adat*) rights. The statement asserts that if the present situation continues, indigenous people and local communities' rights will be seriously undermined. They called upon LEI and FSC for a halt in all scoping visits, pre-assessment and assessment activities with concessionaires (HPHs), as well as an immediate moratorium on the issu-

[25] See attached Appendix 4, Details of Joint Certification Work, http://www.sustainableforestgtz.org/m@in/eng/en-certf.htm.

[26] FSC is an independent, international non-profit organization that promotes responsible forestry. It was established in 1993 with the main office in Mexico. The three principle features of FSC are as follows: (1) membership organizations are representative of the full spectrum of parties involved in forestry; (2) the auditors employed are independent certifiers and not connected to the industry or to consumer groups; and (3) component principles and criteria are determined by international agreement. Funding sources of FSC are charitable foundations, donor government, membership subscriptions and accreditation fees. Around 90 million hectares of forest in 35 countries are certified including 20 million hectares under the Forest Stewardship Council Scheme. Their premise is that environmentally aware consumers are willing to pay more for environmentally friendly forest products. There are a number of FSC accredited certification bodies throughout the world. FSC members are composed of three interest groups (economic, environmental and social). Those operations evaluated and monitored by FSC can use chain-of-custody certificates and FSC logos on their timber and other products. Indonesia was selected by FSC, along with 14 other major exporter nations, as a target country for improved forestry standards. However, there is criticism that FSC does not pay sufficient attention to domestic forestry laws in ensuring its principles and methods are compatible. As of August 2000, the FSC mission is to "promote environmentally appropriate, socially beneficial, and economically viable management of the world's forests".

[27] Greenpeace International, August 2000 (grosoman@dialb.greenpeace.org.).

ing of any certificates, until core issues relating to *adat* rights are resolved between all stakeholders. The also contend that the certification of HPHs in the current situation is contrary to efforts aimed at securing indigenous and community rights, since no independent analyses have been undertaken regarding FSC's Principles 2 (tenure and use rights and responsibilities) and 3 (indigenous peoples' rights) in relation to Indonesian legislation. The behaviour of certification bodies such as SGS in the Diamond Raya case and Smart Wood in relation to the granting of several certificates to Perum Perhutani, are cited as examples of inadequate consultation methodologies. (Source: an article based on information from 'Indonesian NGOs calling for an immediate halt in scoping, assessments and issuing of certificates to HPHs/KPHs', 21st April 2001, received from Kim Terje Loraas (wrm@wrm.org.uy, The Rainforest Foundation), 30 th April 2001.

(c) The classification of certification as a market-based instrument and debates about green markets have led to a common assumption that certification only makes sense where there is a discerning market, i.e. a market that favors products from well-managed forests. In consequence, it is often considered that certification is an unjustified burden on forest managers whose products are not destined for green markets. This paper questions these assumptions based on an initial review of information from certified forest operations from around the world. We suggest that some of the commercial advantages of certification are not reliant on the preferences of green consumers. However, our main contention is that certification has merit as a public policy instrument, quite independently of its marketing function. We think that certification can offer opportunities for policy development both when standards are being developed, and when they are used in field assessments. (Source: WWF).

(d) To date, the impact of certification on trade has been very limited and very country specific. Although Western European countries and the United States have shown interest in certification, major Asian timber importers such as Japan, the Republic of Korea and China have not. From the producer side, major exporting countries such as Indonesia, Malaysia, Sweden, Finland, Canada and Ghana are moving towards development of certification schemes, partly as a means of encouraging improved forestry practices, but largely to avoid future trade difficulties or to gain a market advantage. (Source: FAO).

(e) The volume of certified products entering the market is relatively small because of the limited supply and the lack of demand, and there is therefore little evidence of the positive or negative market impact of certification. It remains unclear whether a strong demand will develop in the future for certified wood, and whether it will command a premium price. A further, critical unanswered question is whether certification will, as it was originally intended to do, significantly contribute to improved forest management in developing countries (where deforestation is greatest). There are also concerns that certification may intentionally or unintentionally act as a non-tariff barrier to trade and discriminate against those unable or unwilling to become certified. At present, certification seems to be used mainly as a marketing tool, to increase market share and/or to ensure continued or improved market access. (Source: FAO).

(f) The Forest Stewardship Council (FSC) has continued to expand the area of forests certified by its accredited certifiers. Most is in Europe and the United States. Sweden and Poland alone account for 66 percent of the total, and the United States another 10 percent. Some areas requiring further attention include: continued work to determine factors for evaluating forest management and reliable ways of measuring them; procedures for tracking wood from the forest to the market; and analysis of the degree to which there are linkages between criteria and indicators at the national and management-unit levels, and between the latter and forest product certification. (Source: Forestry Information Notes, forestry-information@fao.org; http: //www.fao.org/forestry).

3 Domestication of international treaties and agreements relating to the environment with special reference to public participation

3.1 Public participation in Indonesia and international treaties

Legal reform has been enforced in Indonesia, especially since Indonesia's economic crisis in 1997 and the ensuing period of democratization which toppled Suharto's leadership. In the climate of political change, Indonesia has ratified a number of international treaties and agreements relating to the environment, as well as those relating to ILO or human rights..

For a country such as Indonesia, with its legal system unconsolidated and in a developmental stage, there is the potential for the international channels created by the ratification of these environmental treaties and agreements to support the development of a domestic system for public participation. No part of domestic law can stand alone in this process of globalization[28]. In this section, an assessment of Indonesia's system for public participation and its development as influenced by international environmental treaties and agreements is pre-

Table 1 International treaties and agreements relating to the environment and their status in Indonesia.

Title of international treaty or agreement	Date of Signature	Status in Indonesia: date entered into force	Status under domestic law	Remarks
International Plant Protection Convention	6th Dec'57	21st June '77 (ratification) 14th Nov '90 (acceptance of amendment)	KP2/77	
Convention on the Continental Shelf	8th May '58			
Convention on Fishing and Conservation of the Living Resources of the High Seas	8th May '58			
Convention on the High Seas	8th May '58	10th Aug '61 (ratification)	UU 19/61	
Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water	23rd Aug '63	8th May '64* (ratification)		20th Jan '64*
Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies	14thFeb '67*			1st Jan '67*
International Convention on Civil Liability for Oil Pollution Damage	29th Nov '69	1st Sept '78 (ratification) 30th Nov '78 (entry into force)		
Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar)		8th Apr '92 (ratification) 8th Aug '92 (entry into force)	KP48/91	
International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage		1st Sept '78 (accession) 30th Nov '78 (entry into force)		
Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction	21st Jun '72	19th Feb '92 (ratification)	KP58/91 KP89/91	
Convention concerning the Protection of the World Cultural and Natural Heritage		6th Jul '89* (acceptance)	KP17/89	6th Oct '89* (entry into force)
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)	28th Mar '79	28th Dec '78 (accession) 28th Mar '79 (entry into force)	PP8/99	
International Convention for the Prevention of Pollution from Ships as modified by the Protocol of 1978	21st Jan '87 (except Annexes III, IV & V)	21st Jan '87 (entry into force)		
Convention on the Physical Protection of Nuclear Material	3rd Jul '86*	5th Nov '86 (ratification) 8th Feb '87 (entry into force)	KP49/86 KP64/86	8th Feb '87*
United Nations Convention on the Law of the Sea	10th Dec '82	3rd Feb '86 (ratification)	KP82/93	
Agreement relating to the Implementation of Part XI of	29th Jul '94*			28th Jul '94*

Table 1 Continued.

the United Nations Convention on the Law of the Sea of 10 December 1982				
Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks	4th Dec '95			
International Tropical Timber Agreement 1983	13thJun '84*	9th Oct '84(ratification)	KP49/84 KP35/84	1st Apr '85*
Convention for the Protection of the Ozone Layer	24th Sept '92	26th Jun '92 (acceptance)		
Protocol on Substances that deplete the Ozone Layer	21st Jul '88*	26th Jun '92 (ratification)		24thSept '92*
Amendment to the Montreal Protocol on Substances that deplete the Ozone Layer	24th Sept '92	26th Jun '92 (ratification)		
ASEAN Agreement on the Conservation of Nature and Natural Resources	9th Jul '85	10th Jul '86 (ratification)	KP26/86 KP43/86	
Convention on Early Notification of a Nuclear Accident	26th Sept '86	12th Nov '93 (ratification) 13th Dec '93 (entry into force)	KP87/93	
Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency	26th Sept '86	12th Nov '93 (ratification) 13th Dec '93 (entry into force)		
Convention on Conditions for Registration of Ships	26th Jan '87			
Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal		20th Dec '93 (accession)		
Framework Convention on Climate Change	21st Nov '94	5th Jun '92	UU6/94	
Convention on Biological Diversity	5th Jun '92	21st Nov '94	UU5/94	
Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and their Destruction	13th Jan '93			
International Tropical Timber Agreement 1994	21st Apr '94	17th Feb '95 (ratification)	KP4/95 LN. 4	
International Convention to combat desertification in those Countries Experiencing Serious Drought and/or Desertification, particularly in Africa	15th Oct '94	28th Aug '98 (ratification)	KP135/98	
Convention on Nuclear Safety	20th Sept '94			
WTO			UU07/94	

Source: Based on information primarily provided by the Ministry of Environment, Indonesia, as of August 2001. The author has modified the data after cross checking with IUCN data as of March 2002 available on the internet from ENTRI (IUCN) (entri@ciesin.org). Indonesia has already signed 68 environment related international treaties and agreements according to the IUCN data.

N.B. *in the remarks column indicates that different dates were quoted by different sources.

UU=Act; PP=Government Regulation; KP=Presidential Decree

sented.

3.2 The status of the international conventions on the environment in Indonesia

Indonesia has ratified the following international environmental treaties and agreements. The table shows how international treaties and agreements relating to the environment have been incorporated into domestic laws and regulations. The column 'status under of domestic law' illustrates how domestic laws and regulations have been instituted within Indonesia in relation to certain international environmental treaties and agreements.

3.3 Domestication of international treaties and agreements relating to the environment

Some of the major international treaties and agreements relating to the environment have already been domesticated in Indonesia, since being signed and ratified. These may be categorized as below, according to the level of the law or regulation applied in their domestication.

(i) Act Level (*Undang-Undang*)

- Convention on the High Seas, incorporated under Indonesian Act No. 19 of 1961
- Framework Convention on Climate Change, incorporated under Indonesian Act No. 6 of 1994
- Convention on Biological Diversity, incorporated under Indonesian Act No. 5 of 1994

(ii) Presidential Decree Level (*Keputusan Presiden*)

- International Plant Protection Convention, incorporated under Indonesian Presidential Decree No. 2 of 1977
- Convention on Wetlands of International Importance especially as Waterfowl Habitat, incorporated under Indonesian Presidential Decree No. 48 of 1991
- Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction, incorporated under Indonesian Presidential Decrees No. 58 of 1991 and No. 89 of 1991
- Convention concerning the Protection of the World Cultural and Natural Heritage, incorporated under Indonesian Presidential Decree No. 17 of 1989
- Convention on the Physical Protection of Nuclear Material, incorporated under Indonesian Presidential Decrees No. 49 of 1986 and No. 64 of 1986
- United Nations Convention on the Law of the Sea, incorporated under Indonesian Presidential Decree No. 82 of 1993
- International Tropical Timber Agreement, 1983, incorporated under Indonesian Presidential Decrees No. 49 of 1984 and No. 35 of 1984
- ASEAN Agreement on the Conservation of Nature and Natural Resources, incorporated under Indonesian Presidential Decrees No. 26 of 1986 and No. 43 of 1986
- Convention on Early Notification of a Nuclear Accident, incorporated under Indonesian Presidential Decree No. 81 of 1993
- International Agreement, 1994, incorporated under Indonesian Presidential Decree No. 4 of 1995
- International Convention to combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, particularly in Africa, incorporated under Indonesian Presidential Decree No. 135 of 1998

(iii) Government Regulation Level (*Peraturan Pemerintah*)

- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), incorporated under Indonesian Presidential Decree No. 8 of 1999

3.4 Participatory systems reflected in international environmental treaties and agreements

Various provisions for the enhancement of public participation relating to the environment can be found in international treaties and agreements. This section illustrates how articles relating to public participation have been introduced in the relevant international treaties and agreements, and examines how they have affected Indonesian environmental law through their domestication.

Generally speaking, provisions relating to public participation can be found in both 'hard' and 'soft' laws in the international environmental policy. Some of the international environmental treaties and agreements that include provisions for public participation are discussed in a separate IGES study[29].

However, there are some inherent problems with identifying which domestic laws and regulations in Indonesia are specifically compliant with which international treaties and agreements. Furthermore, it is difficult to identify which part of certain domestic legislation complies with which part of the provisions laid down by international law. Two of the main reasons for this are:

(a) Despite recent legal reform, domestic laws in Indonesia remain scattered and fragmentary. There are many out-dated and uncoordinated laws and regulations that should be deleted or amended. This means that the Indonesian legal system in some areas is not hierarchical or systematic in its structure. As a result, although the

[28] Government Regulation No. 25/2000 provides in Article 5 that: (1) international commitments which have already been signed or which shall be made by the Government shall also apply to all autonomous regions; and that (2) treaties and cooperative projects between a region and an overseas institution/agency established on the basis of the authority of an autonomous region may not contradict the provisions of similar treaties made by the government.

major domestic laws and regulations which correspond to major components of international treaties can be identified (as in Table 1), it is difficult to draw conclusions on the direct compliance of domestic laws with their international counterparts, in the absence of an in-depth comparative study.

(b) As already discussed, legal pluralism is still prevalent in Indonesia. Despite being regarded by some as primitive, irrational and outdated, customary *adat* laws remain the 'living law' in many circumstances, particularly with regard to community participation in the utilization and management of environmental resources, including forests and fisheries. Over hundreds of years, communities have depended on such law to protect themselves from external pressures such as forced labour, and to define themselves in the face of colonial administrations and oppressive dictatorships, especially in the outer islands. National or official law is now penetrating to all regions under the banner of legal reform. However, the integration of a broader diversity of law through legal reform is necessary for Indonesia to cope with modern trends in globalization and to redress the legal legacy of past governments.

For these two reasons, it is essential within the scope of the present study to limit the terms of the analysis. Indonesia has already signed or ratified many international environmental treaties as explained above. In this context, there are two methods of developing an assessment of international influences on domestic public participation in Indonesia. The first is to identify concrete provisions on public participation in the international environmental treaties and agreements that have been signed or ratified by Indonesia. The second is to identify those articles relating to public participation in the relevant domestic laws and regulations existent in Indonesia.

[29] (a) 1991 Convention on the Environmental Impact Assessment in a Trans-boundary Context (Espoo Convention, Articles 4(8) and 4); (b) 1992 Convention on Biological Diversity (CBD, Articles 8 (j) and 14 (1) (a)); (c) 1994 International Tropical Timber Agreement (ITTA, Article 1 (j)); (d) 1994 Convention to Combat Desertification (Articles 3 (a), 9 (1), 10 (2), 13 (1) (c), and 19 (1) (a)); (e) 1998 Convention on Access to Information and Public Participation in Decision-making and Access to Justice in Environmental Matters (Arhus Convention, Articles 2 (4), (5), 6 (1), (2), (6), (7), (8), (9), 7, 8, and 9 (2)); (f) 1998 ITTO Criteria and Indicators for Sustainable Management of Natural Tropical Forests (Criteria 1 and 7); (g) Ramsar Convention (Resolutions 7 and 8); and (h) CBD Decision v/16 (Article 8 (j) etc.). (g) World Charter for Nature (Principle 23); (h) Rio Declaration on environment and Development (Principles 1, 10, 22, 21 and 22); (c) Agenda 21 (Chapter 23); (i) Proposals for Action of IPF; and (j) Proposals for Action of IFF (This list was compiled largely by Mr. Komatsu of IGES Forest Conservation project IGES).

3.4.1 Provisions for public participation made in international treaties and agreements

The following is a list of the international environmental treaties and agreements signed or ratified by Indonesia and complemented by major domestic laws and regulations which include provisions related to public participation explicitly or inexplicitly.

(i) United Nations Framework Convention on Climate Change (1992), incorporated as Indonesian Act No. 6 of 1994.

· Article 4 (1) on Commitments refers to the need to "encourage the widest participation in this process, including that of non-governmental organizations".

· Article 6 on Education, Training and Public Awareness states that "the Parties shall: (a) Promote and facilitate at the national and, as appropriate, sub-regional and regional levels, and in accordance with national laws and regulations, and within their respective capacities: (i) the development and implementation of educational and public awareness programmes on climate change and its effects; (ii) public access to information on climate change and its effects; (iii) public participation in addressing climate change and its effects and developing adequate responses.

· Article 6 (6) states that "any body or agency, whether national or international, governmental or non-governmental, which is qualified in matters covered by the Convention, and which has informed the secretariat of its wish to be represented at a session of the Conference of the Parties as an observer, may be so admitted".

(ii) Convention on Biological Diversity, incorporated as Indonesian Act No.5 of 1994.

· Articles 14, 15, 23, 25 and 31 of the Convention include provisions related to public participation. Article 14(1)(a) on Impact Assessment and Minimizing Adverse Impacts accommodates the potential for "where appropriate ... public participation in such procedures".

· Article 23 (5) on the Conference of the Parties states that "any other body or agency, whether governmental or non-governmental, qualified in fields relating to conservation and sustainable use of biological diversity, which has informed the Secretariat of its wish to be represented as an observer at a meeting of the Conference of the Parties, may be admitted unless at least one third of the Parties present object".

· Article 25 (1) on the Subsidiary Body on Scientific, Technical and Technological Advice stipulates that "this body shall be open to participation by all Parties and shall be multidisciplinary. It shall comprise government representatives competent in the relevant field of expertise". Furthermore, it refers to "the close and traditional dependence of many indigenous and local communities embodying traditional lifestyles on biological resources, and the desirability of sharing equitably benefits arising from the use of traditional knowledge". It also affirms the need for the full participation of women at all levels of policy-making and implementation for biological di-

versity conservation.

· Article 32 (2) on the Relationship between this Convention and its Protocols states that "any contracting party that has not ratified, accepted or approved a protocol may participate as an observer in any meeting of the parties to that protocol".

(iii) International Plant Protection Convention, incorporated as Indonesian Presidential Decree No. 2 of 1977.

· Article 8 (2) of the Convention states that "regional plant protection organizations shall function as the coordinating bodies in the areas covered and shall participate in various activities to achieve the objectives of this Convention".

(iv) Convention concerning the Protection of World Cultural and Natural Heritage, incorporated as Indonesian Presidential Decree No.17 of 1989.

· The preamble to the Convention states that "it is incumbent on the international community as a whole to participate in the protection of the cultural and natural heritage of outstanding universal value".

· Article 10(2) of the Convention states that "the Committee (The World Heritage Committee) may at any time invite public or private organizations or individuals to participate in its meetings for consultation on particular problems".

(v) International Tropical Timber Agreement, 1983, incorporated as Indonesian Presidential Decrees No.49 of 1984 and No. 35 of 1984.

· Article 24(1) of the Convention on the Establishment of Committees states that "the following committees are ..established as permanent committees of the Organization: (a) Committee on Economic Information and Market Intelligence; (b) Committee on Reforestation and Forest Management; and (c) Committee on Forest Industry", and in Article 24(2) that "the Council may, by special vote, establish such other committees and subsidiary bodies as it deems appropriate and necessary".

· Article 24(4) states that "participation in each of the committees shall be open to all members. The rules of procedure of the committees shall be decided by the Council".

(vi) Convention on the Control of Trans-boundary Movements of Hazardous Wastes and their Disposal (Basel), incorporated as Indonesian Government Regulation No. 19 of 1994.

· Article 6 of the Convention states that "any other body or agency, whether national or international, governmental or non-governmental, qualified in fields relating to hazardous wastes or other wastes which has informed the Secretariat of its wish to be represented as an observer at a meeting of the Conference of the Parties, may be admitted unless at least one third of the Parties present object".

(vii) ASEAN Agreement on the Conservation of Nature and Natural Resources, incorporated as Indonesian Presidential Decrees No. 26 of 1986 and No. 43 of 1986.

· Article 16(2) of the Agreement on Education, Information and Participation of the Public in Training aspires to "as far as possible, organize participation of the public in the planning and implementation of conservation measures".

(viii) Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), incorporated as Indonesian Government Regulation No. 8 of 1999

· Article 9 (6) on the Conference of the Parties stpulates that "the United Nations, its specialized agencies and the International Atomic Energy Agency, as well as any State not a Party to the present Convention, may be represented at meetings of the Conference by observers, who shall have the right to participate but to not vote".

· Article 7 states that "any body or agency technically qualified in protection, conservation or management of wild fauna and flora, in the following categories, which has informed the Secretariat of its desire to be represented at meetings of the Conference by observers, shall be admitted unless at least one-third of the Parties present object: a) international agencies or bodies, either governmental or non-governmental, and national governmental agencies and bodies; and b) national non-governmental agencies or bodies which have been approved for this purpose by the State in which they are located.

3.5 Provisions made for public participation in domesticated international treaties: Case study of the domestication of the Ramsar Convention

The Convention on Wetlands of International Importance especially as Waterfowl Habitat, 1971, as amended by the Paris Protocol of 1982 and 1987 (the Ramsar Convention) protects the fundamental ecological functions of wetlands as regulators of water regimes and as habitats supporting a characteristic fauna and flora, especially waterfowl, as declared in preamble of the Convention. Any contracting party to the Convention is granted certain rights in order to achieve the objectives, since the problems it addresses are regarded as being of urgent national interest. Parties are also subject to its incumbent responsibilities for the wise use of wetlands (Resolution 2).

Articles relating to public participation in this Convention are found in Resolutions 6 and 7 under the directives for wise use of wetlands. These two Resolutions were amended in 1987. Resolution 6 (3) states that "the contracting party shall ensure that those responsible at all levels for wetlands management shall be informed of, and take into consideration, recommendations of such conferences concerning the conservation, management and wise use of wetlands and their flora and fauna". Resolution 7 (1) stipulates that "the representative of the contracting parties at such conferences should include persons who are experts on wetland or

waterfowl by reason of knowledge and experience gained in scientific, administrative or other appropriate capacities".

These Resolutions provide incentives for the involvement of local indigenous people under the objective of "wise use of the wetlands". Stakeholders can be widely involved and participate in order to realize various roles at all levels for wetlands management.

Indonesian Presidential Decree No. 48 of 1991 on the Convention on Wetlands of International Importance especially as Waterfowl Habitat is the domesticated law that corresponds to this convention. This Decree is a short legal document composed of only two articles admitting the Convention comprehensively into domestic law. There are no concrete articles related to public participation in this Decree. However, individual articles of more general laws on environmental participation (i.e. the Environmental Management Act of 1997 and the Presidential Decree on the Environmental Impact Assessment No. 10 of 1999) make provision for this.

Similarly, Bio-diversity Act No. 5 of 1994, which corresponds to the International Convention on Biological Diversity, is also a short act comprising just two articles. However, in its supporting official elucidation, quite a long explanation is given to stress the importance of ratifying this Convention. Included is a long list of Indonesian laws and regulations which are relevant to this Convention. For example, it is stressed that since international laws and regulations pertaining to (amongst others) forestry, environmental management, fisheries, maritime law, eco-systems, world heritage, wetlands and endangered species are already applied in Indonesia, ratification of this convention is wholly compatible with the application of Indonesian law. It is, however, made clear in the explanation that a number of laws and regulations which are relevant to certain international treaties and agreements on the environment have to be examined prior to the ratification of such treaties and agreements.

Concluding remarks

A basic understanding of the legal conditions relevant to public participation in forestry is required to gain a full picture of the development of the process in Indonesia[30].

(1) A full view of the overall trends in on-going judicial reform in Indonesia must be taken, covering almost all areas of law. Judicial reform relates not only to basic governmental structure but also to some essential legal principles such as constitutionalism, separation of powers, interdependence of *adat* laws and formal law and the enforcement of laws and regulations. The Third Constitutional Amendment of November 2001 promulgated by MPR explicitly changed certain basic constitutional principles - the sovereignty of the people was explicitly declared; the role of DPR was upgraded; direct voting in presidential and vice-presidential elections by the people was adopted; and the Constitutional Court was established.

(2) Decentralization of governmental powers in Indonesia is a matter of national concern. Political power, once concentrated in the hands of the president, is now being devolved to local governments with the development of local autonomy, initiated in January 2001. However, it is fair to say that, generally speaking, Indonesian politics remains in a chaotic situation.

(3) The participation of the public in environmental activities has political, economic and socio-cultural ramifications. If viewed as a means to achieve democratization, public participation must be supported by decisive governmental initiatives in order that such a decentralized system can be substantially affected. Decentralization means devolution of central powers to local governments. As yet, the level of integration of authority throughout Indonesia's political infrastructure remains minimal with much yet to be achieved. Socio-economic obstacles are still existent. The Indonesian philosophy *Pancasila* and the national principle of *Bhinneka Tunggal Ika* (unity in diversity) embody the challenges of developing a unified and universal social and legal structure relevant to a pluralistic society.

(4) The role of *adat* law is a vital element in the development of local governments and civil society. Given the vacuum which exists in official law, legal certainty and predictability can be conveyed nationwide by *adat* approaches where they serve as a living law, particularly in the outer islands. However, formal law is replacing *adat* law under the banner of modernization and is gradually penetrating to the local level, despite the fact that many socio-cultural considerations, such as legal awareness, social discipline and community participation, are supported by indigenous *adat* law and traditional communal values. On the other hand, *adat* laws are now being challenged in legal disputes and transactions which are well beyond their inherent capacity.

[30] The author was provided with several lists of such relevant laws and regulations by the Indonesian Ministry of Environment, in order to study compliance with international treaties and agreements. For instance, 25 laws and regulations are listed as being of direct relevance to the ratification of the Bio-diversity Convention's Cartagena Protocol. Similarly, 15 laws and regulations are listed in connection with agreement to the Hazardous Waste treaty, and 11 in connection with the Convention on Migratory Birds.

Appendix 1 List of LEI standards

LEI Standard 5000 Framework for the Sustainable Production Forest Management (SFPM) System

LEI Standard 5000–1 Sustainable Natural Production Forest Management (SNPFM) System

LEI Standard 5000–2 Sustainable Plant Forest Management System

LEI Standard 5000–3 Sustainable Community-based Forest Management System

LEI Standard 5000–4 Sustainable Non-Timber Forest Product Management System

LEI Standard 5001 Timber Tracking System

LEI Standard 5002 Forest Product Labeling

LEI Standard 5005 Terms and Definitions Relating to Sustainable Production Forest Management

—LEI Guideline series 55—

LEI Guideline 55 Resolution Guideline: Appealing against a Certification Decision

—LEI Guideline series 99—

LEI Guideline 99 Sustainable Production Forest Management (SFPM) Certification System

LEI Guideline 99–00 Requirements, Guidelines and Work Procedure for SPFM

LEI Guideline 99–01 General Requirements of the SPFM Certification Institution

LEI Guideline 99–02 General Requirements of the SPFM Certification Field Assessor

LEI Guideline 99–03 General Requirements of the SPFM Certification Expert Panel

LEI Guideline 99–10 Requirements, Guidelines and Training Procedure of the SPFM Certification Programme

LEI Guideline 99–11 Training Guidelines for SPFM Certification Field Assessors

LEI Guideline 99–12 Training Guidelines for the SPFM Certification Expert Panel

LEI Guideline 99–13 Training Guidelines for SPFM Certification Trainers

LEI Guideline 99–14 General Criteria for SPFM Certification Training Institutions

LEI Guideline 99–15 General Criteria for SPFM Certification Personnel Training Institution s

—LEI Technical Document—

Document LEI-01 Verifier and Verification Toolbox for Assessment Criteria and Indicators of the Sustainable Natural Production Forest Management (SNPFM) Certification System

Document LEI-02 The Intensity Scale of Sustainable Natural Production Forest Management and its Indicators

Document LEI-03 Academic Document for Certification System of Sustainable Natural Production Forest Management (SNPFM)

—LEI Academic Document—

Document LEI-03/2 Sistem sertifikasi pengelolahan Hutan berbasis masyarakat lestari

Appendix 2: The certification process

The Sustainable Production Forest Management (SPFM) system is essentially conducted on the collective principles of voluntarism, transparency, independence, participation, non-discrimination, empowerment and accountability. The process separates the data gathering elements from the decision-making stage, and also involves several stakeholders. The whole certification process consists of four stages:

1. Pre-Field Assessment Stage

The Pre-Field Assessment is a series of preliminary activities designed to increase the efficiency of the actual evaluation, paving the way for a more expeditious certification process based on an increased understanding of the relevant information. Those management units which do not meet the necessary standards at this stage, will not continue onto the certification process. The Pre-Field Assessment consists of:

(a) Screening by Expert Panel I:
Document evaluation
Field scoping
Decision-making and submission of recommendation.

(b) Decision by certification board

2. Field Assessment & Community Input Stage

(a) Field Assessment

At this stage, data collecting and analytical processing are carried out by Field Assessors, based on the SPFM criteria and indicators. The procedure for the field assessment is regulated by separate guidelines.

(b) Community Input

Community Input is carried out simultaneously with and is complementary to Field Assessment, in order to provide local communities with the opportunity to actively participate and submit data and information, covering both the positive as well as the negative effects of the evaluation of management units. The Certification Body openly announces this opportunity to the public.

Any Community Input is submitted to the Certification Body for consideration by Expert Panel II, which makes a final decision on certification.

3. Performance Evaluation & Certification Decision-Making Stage

Performance Evaluation is the process by which a management unit is evaluated, based on SPFM criteria and indicators. A set of standard conditions is compared to those found on the ground, in order to rank the application and make a decision on certification. Recommendations to the management unit are also made. The Field Assessment Report, Community Input and the results of the screening process by Expert Panel I, are all treated as sources of information in the decision-making.

A decision on SPFM Certification is made by Expert Panel II of the SPFM Certification Body whose membership, work procedures and recommendations to the management unit are all regulated by separate guidelines.

4. Certification Decision Stage

The Certification Decision is the process by which the decision taken by the Expert Panel II may be endorsed as a Certification Body Decree. In the event that a management unit is granted certification, the Certification Body shall openly announce the event through the mass media, and disclose the decision in a sealed notification to all relevant parties in the government, NGOs and various groups/associations concerned.

To maintain the credibility of the Certification Decision, the Certification Body will periodically monitor and assess the already certified management units. The surveillance activity will be carried out by a team of qualified individuals equivalent to the Expert Panel or to the Lead Field Assessors.

Source: Lembaga Ekolabel Indonesia (LEI)

Appendix 3 Memorandum of understanding between Yayasan Lembaga Ekolabel Indonesia (YLEI) and the Forest Stewardship Council (FSC), September 1999

The Board of Trustees of YLEI (the Indonesian Eco-labeling Foundation):

(a) Accepts the mission of the foundation to develop eco-labeling certification systems in Indonesia, including a sustainable forest management certification system, along with its long-term responsibilities in system maintenance and supervision of the system's implementation, capacity building and accreditation of certifiers.

(b) Recognizes the interim role of LEI (the Indonesian Eco-labeling Institute, the executive division of YLEI) to provide certification services for newly developed certification system (s), while assisting YLEI to prepare Indonesian organizations and companies that are interested and ready to function as certifiers, including forest certifiers.

(c) Recognizes the importance of a joint certification arrangement between LEI, FSC-accredited certifiers and future YLEI-accredited Indonesian certifiers, to serve the objectives of establishing Indonesia's forest certification system, as part of YLEI's capacity building programme to help prepare Indonesian forest certifiers.

The Executive Director of the FSC (Forest Stewardship Council):

(a) Recognizes the importance of a joint certification as an interim arrangement to accommodate the need for closer collaboration between FSC and YLEI.

(b) Accepts the motion passed at the Second General Assembly of FSC Members in June 1999 on the establishment of a working group to develop policy and protocol governing FSC recognition of standards and systems that have been developed independently.

Both Parties, YLEI and FSC, commonly agree that:

(a) The Criteria and Indicators of YLEI standards will be used by all certification bodies operating in Indonesia. The Criteria and Indicators to be used will be the version that incorporates the recommendations from the joint field work and workshop of August/September 1999 and additional comments from Indonesian stakeholders.

(b) YLEI and FSC will continue to collaborate in the review of YLEI standards and a certification system for Indonesia. This collaboration will include detailed comparison of the YLEI standards and system, and FSC requirements, based on field experience through the Joint Certification Programme.

(c) FSC will study mechanisms for the assessment and recognition of YLEI standards for Indonesia in the absence of an FSC Working Group. This issue will be treated by the Working Group to be set up by the FSC Board.

(d) YLEI is to become an accreditation body for forest certifiers. YLEI and FSC will continue to study the issues surrounding Mutual Recognition at the level of certification and accreditation with the aim of strengthening and formalizing the relationship in due course.

(e) FSC and YLEI will collaborate through simultaneous assessments and joint certification by LEI or YLEI-accredited certification bodies and FSC-accredited certification bodies in accordance with the ground rules set-out in the Joint Certification Protocol. Additions to the ground rules by an FSC-accredited certifier are acceptable if they are necessary for the fulfillment of the accreditation contract between that certifier and FSC.

(f) YLEI/LEI and FSC have agreed to improve communication links to ensure progress in their collaboration.

(g) Specific rules governing the Joint Certification Program shall be defined in a separate Joint Certification Protocol attached to the Memorandum.

(MoU signed in Jakarta, 3rd September 1999, by Prof. Dr. Emil Salim, Chairman of the Board of Trustees, Yayasan Lembaga Ekolabel Indonesia, and Dr. Timothy Synnott, Executive Director, Forest Stewardship Council)

Appendix 4 Joint certification protocol (JCP) between LEI-accredited certification bodies and FSC-accredited certification Bodies, October 2001

This protocol refers to a joint certification programme between FSC-accredited Certification Bodies (FSC-CBs) and LEI-accredited Certification Bodies (LEI-CBs) for natural forest management by concessionaires in Indonesia. All FSC- and LEI-accredited certification bodies currently working in Indonesia will be bound by this protocol for the period of its validity. The JCP is intended to operate for one year or until revised or renewed. Any revision before one year will need the agreement of all parties. This protocol is part of the two Memoranda of Understanding between FSC and LEI dated 3rd September 1999 and 18th October 2001.

1. LEI-CBs and the FSC-CBs agree that the process of joint certification should be open, transparent and co-operative and that all parties will benefit from the process.
2. The JCP among LEI-CBs and FSC-CBs will cover co-operation throughout all stages of the certification process to gain experience in working together and an understanding of each other's systems, and to assist LEI and FSC to prepare the ground for formalizing the institutional relationship between them as stated in the MoU of 18th October 2001.
3. FSC, LEI and the accredited certification bodies agree that the JCP will meet all requirements under both FSC and LEI certification systems.
4. Under the JCP, all parties agreed that the Criteria and Indicators of LEI will be used by all certification bodies operating in Indonesia. This means that FSC-CBs will use all LEI C & I, including those exceeding the requirements of the FSC, as well as any additional FSC requirements, not included in the LEI C & I.
5. Only an FMU that passes both LEI and FSC system requirements will be certified. The FMU will receive both an LEI certificate and an FSC certificate. The FMU will be allowed to use both LEI and FSC logos.
6. At the application stage, the FMU will be sent guidelines prepared jointly by the LEI-CBs and FSC-CBs explaining the certification process under the JCP.
7. Contractual arrangements will be determined by the FMU and the collaborating LEI CB and FSC CB on a case-by-case basis.
8. Under the JCP, an FSC scoping is not compulsory. Past experience indicates that typically a scoping is required. Prior to signing a contract between an FSC-CB or an LEI-CB and an FMU, a document completeness review shall be performed by the LEI-CB, and the need for an FSC scoping visit shall be determined by the FSC-CB.
9. The FSC-CBs and LEI-CBs agree to use a single team

. In the case of a joint LEI screening and FSC scoping process,

- In field assessment
- In surveillance visits if possible

10. Public consultation is a fundamental component of the FSC and LEI systems and therefore also of the JCP. It starts with a joint public announcement a minimum of 30 days before a field assessment takes place. Consultation shall take place on national, provincial and district levels. All interested stakeholders shall be involved.
11. Upon positive decision, public summaries of the certification reports will be made available in both Bahasa Indonesia and English and will include a full description of the joint certification process.
12. Results of each step of the JCP shall be shared between both the LEI-CB and FSC-CB.
13. The appeal process will follow each system's requirements.
14. Suspension or termination of the certificate will follow the procedures of each CB. Decisions will be made by consensus between the CBs.
15. LEI and FSC may send observers to monitor implementation of the JCP. Other interested parties (NGOs, government officials, project members, etc.) can observe the field work, provided that the FMU agrees.
16. The details of the certification steps under the JCP are described in Table 1.
17. Any violations of the JCP procedures will be resolved between the collaborating parties.

Table 2 Certification process under JCP.

No	Action Step	Responsible parties/person
1.	FMU sends application and delivers all required documents to LEI CBs and/or FSC CBs. CBs communicate with respective partner CB.	FMU and LEI CBs and/or FSC CBs
2.	a. Document Completeness review by LEI CB b. Decision about scoping by FSC CB	LEI CB FSC CB
Action Step		
	Joint Screening/Scoping*	LEI-CB Screening, no FSC-CB scoping*
3.	Contracting between FMU and CB(s) (FMU and LEI CBs and/or FSC CBs)	Contracting between FMU and CB (LEI CB)
4.	CBs put together joint workplan and teams for LEI screening process and FSC scoping process. Teams meet before field visit. (LEI CB and FSC CB)	LEI CB puts together workplan and team for LEI screening process (LEI CB)
5.	Screening/scoping step I: document review and clarification of corporate statement (LEI CB and FSC CB)	Screening step I: document review and clarification of corporate statement (LEI CB)
6.	Screening/scoping step II: Joint Field Visit (Single team) with LEI-CB facilitator and optional observers from LEI-FSC/NGOs (LEI CB/EP I and FSC CB)	Screening step II: Field Visit with optional LEI-CB facilitator and optional observers from LEI-FSC/NGOs (LEI CB/EP I)
7.	Screening/ scoping step III: EP I decision (LEI CB) and combined or joint report writing by both CBs (LEI CB/EP I and FSC CB)	Screening step III: EP I decision (LEI CB) and report writing by LEI-CB (LEI CB/EPI)
8.	a. If EP I decision = fail: back to (1) Application/process restarts, FSC CB awaits EP I approval (LEI CB) b. EP I decision = pass: proceed to field assessment (FMU) Note: joint notification of EP I/scoping results to FMU	a. If EP I decision = fail: back to (1) Application/process restarts, FSC CB awaits EP I approval (LEI CB) b. EP I decision = pass: proceed to field assessment (FMU)
	Action Step	**Responsible parties/person**
9.	Notification to proceed: the FMU contacts LEI/FSC-CB. CBs communicate with respective partner CB.	FMU – FSC/LEI CBs
10.	Contracting for field assessment	FMU – FSC/LEI CBs
11.	CBs develop joint work plan and single team to do assessment based on LEI and FSC system requirements.	LEI/FSC-CBs
12.	Joint public announcement (minimum 30 days before field assessment) in Bahasa Indonesia and English.	LEI/FSC-CBs
13.	Joint field assessment, including public consultation on national/provincial and local levels. The FKD (regional consultation forum) and other key persons need to be involved.	LEI/FSC-CBs
14.	Joint fieldwork (including briefing/de-briefing) of FMU	FMU – LEI/FSC-CBs

15.	Separate reporting a. LEI CB Assessor to EP II b. FSC CB Assessor to FSC-CB c. Both CBs send report to FMU for clarification	LEI-CBs FSC-CBs
16.	Separate Decision making process with interim notification to FMU	LEI-CBs/EPII – FSC-CB
17.	Combined decision and joint notification to FMU within 3 months after field assessment: • Situation I: FMU passes in LEI and FSC system. • Situation II: FMU passes LEI system but does not pass FSC system. CBs jointly notify FMU that it has 6 months to meet FSC requirements. • Situation III: FMU passes FSC system but does not pass LEI system. CBs jointly notify FMU that it has 6 months to meet LEI requirements (see note below). • Situation IV: FMU does not pass either system. CBs notify that FMU has 6 months to meet both LEI and FSC requirements (see note below). Note: Under LEI system, an FMU that does not pass LEI system is required to re-apply for field assessment within 6 months after the decision of certification. Otherwise FMU will be required to return to the screening process. Under FSC system, an FMU that does not pass FSC system is required to inform FSC CB when it is ready for pre-conditions or major CAR audit.	LEI-CBs & FSC-CBs
18.	FMU completes administrative requirement to receive certificates (certification contract, fees)	LEI-CBs & FSC-CBs
19.	a. Joint handing over of LEI and FSC certificates and other mandatory documentation. b. Public summary posted by CBs c. Joint public announcement	LEI-CBs & FSC-CBs
20.	Joint surveillance visits by LEI-FSC CBs will take place once a year (unless the LEI system allows for fewer visits). Additional visits according to each CB's requirements.	LEI-CBs & FSC-CBs

* Responsible parties during the screening/scoping process are provided in brackets for each step.

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Source: Lembaga Ekolabel Indonesia

Appendix 5 Certification systems in Indonesia.

Company	Perum Perhutani+	Perum Perhutani+	Perum Perhutani+	Perum Perhutani+	PT Diamond Raya Timber	PT Xylo Indah Pratama	Perum Perhutani+	Perum Perhutani+
Location	Java and Madura	Cepu, Central Java	Kebonhardjo, Central Java	Mantingan, Central Java	Riau	Musi Rawas, South Sumatra	Lawu, East Java	Kendal, Central Java
Type of Concession	Plantation (mainly teak and pine)	Teak plantation	Teak plantation	Teak plantation	Natural forest (HCVF*)	Pulai (*Alstonia* sp.) plantation on private land	Pine plantation	Teak plantation
Area Certified (Ha)	Approx. 2 mill.	33,109	17,653	16,535	90,957	10,000	51,349	20,113
Certification Scheme	-	FSC	FSC	FSC	LEI FSC	FSC	FSC	FSC
Certifier	Smartwood	Smartwood	Smartwood	Smartwood	LEI SGS	Smartwood	Smartwood	Smartwood
Status	Suspended 1997	Certified	Certified	Certified	Certified	Certified	Certified	Certified
Date of Certification	1990	Oct. 1998	Oct. 1998	Oct. 1998	Mid 1999/April 2001, under joint protocol	March 2000	March 2000	March 2000

Appendix 5 Continued.

Company	Perum Perhutani+	Inhutani I	PT Austral Byna	PT Intracawood °	PT Erna Djuliawati	Perum Perhutani+	Perum Perhutani+	Perum Perhutani+
Location	Madiun, East Java	Labanan, East Kalimantan	Barito Utara, C. Kalimantan	Malinau, East Kalimantan	Central Kalimantan	Pemalang, Java	Bojonegoro, Java	Randu-Blatang Java
Type of Concession	Teak and eucalyptus plantation	Natural forest (potential HCVF*)	Natural forest (potential HCVF*)	Natural forest (potential HCVF*)	-	-	-	-
Area Certified (Ha)	31,264	83,240	294,600	250,000	184,206	-	-	-
Certification Scheme	FSC	FSC LEI	FSC LEI	FSC LEI	FSC LEI	FSC	FSC	FSC
Certifier	Smartwood	Smartwood/Mutu Agung Lestari	Smartwood/TpV	Smartwood/TpV	SGS Indonesia/ SGS Qualifor	GFA/Terra Systems	GFA/Terra Systems	GFA/Terra Systems
Status	Certified	Assessment underway	Assessment underway	Assessment underway	Pre-assessment planned	Pre-assessment visit Feb. 2001	Pre-assessment visit Feb. 2001	Pre-assessment visit Feb. 2001
Date of Certification	March 2000	-	-	-	-	-	-	-

(+ now PT Perhutani; * High Conservation Value Forest; ° joint venture between PT Inhutani I, PT Altracks and PT Berca Indonesia. Source: LEI)

Appendix 6 Forest Stewardship Council Principles (February 2000)

(Each principle has several qualifying criteria not stated here)

PRINCIPLE 1: COMPLIANCE WITH LAWS AND FSC PRINCIPLES

Forest management shall respect all applicable laws of the country in which they occur, and international treaties and agreements to which the country is a signatory, and comply with all FSC Principles and Criteria.

PRINCIPLE 2 2: TENURE AND USE RIGHTS AND RESPONSIBILITIES

Long-term tenure and use rights to the land and forest resources shall be clearly defined, documented and legally established.

PRINCIPLE 3: INDIGENOUS PEOPLES' RIGHTS

The legal and customary rights of indigenous peoples to own, use and manage their lands, territories and resources shall be recognised and respected.

PRINCIPLE 4: COMMUNITY RELATIONS AND WORKER'S RIGHTS

Forest management operations shall maintain or enhance the long-term social and economic well-being of forest workers and local communities.

PRINCIPLE 5: BENEFITS FROM THE FOREST

Forest management operations shall encourage the efficient use of the forest's multiple products and services to ensure economic viability and a wide range of environmental and social benefits.

PRINCIPLE 6: ENVIRONMENTAL IMPACT

Forest management shall conserve biological diversity and its associated values, water resources, soils, and unique and fragile ecosystems and landscapes, and, by so doing, maintain the ecological functions and the integrity of the forest.

PRINCIPLE 7: MANAGEMENT PLAN

A management plan — appropriate to the scale and intensity of the operations — shall be written, implemented, and kept up to date. The long-term objectives of management, and the means of achieving them, shall be clearly stated.

PRINCIPLE 8: MONITORING AND ASSESSMENT

Monitoring shall be conducted — appropriate to the scale and intensity of forest management — to assess the condition of the forest, yields of forest products, chain of custody, management activities and their social and environmental impacts.

PRINCIPLE 9: MAINTENANCE OF HIGH CONSERVATION VALUE FORESTS

Management activities in high conservation value forests shall maintain or enhance the attributes which define such forests. Decisions regarding high conservation value forests shall always be considered in the context of a precautionary approach.

PRINCIPLE 10: PLANTATIONS

Plantations shall be planned and managed in accordance with Principles and Criteria 1–9, and Principle 10 and its Criteria. While plantations can provide an array of social and economic benefits, and can contribute to satisfying the world's needs for forest products, they should complement the management of, reduce pressures on, and promote the restoration and conservation of natural forests.

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Trends in Indonesian Forest Policy

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Abstract : The focus of Indonesian forestry has shifted considerably since the beginning of the 1960s as the sector has developed from a largely non-commercial operation into one of the most important components of the economy, supporting national development and foreign exchange earnings in the three decades since the early seventies. However, rapid development of timber-based industries on the one hand and a lack of effort in securing regeneration of logged-over areas on the other, has resulted in forest degradation in many parts of Indonesia's major islands where commercial timber trees are available. Changes in land use policy to accommodate human resettlement, agriculture and the development of estate crop plantations, which for the most part have been short-lived, have also contributed to deforestation and land degradation. Furthermore, forest fires, illegal logging and the subsequent illicit trade have become major issues which need to be addressed not only by the forestry sector itself, but also by related parties at various levels.

Along with the country's economic restructuring, the forestry sector has also undergone reform. In reviewing the structure of the sector so as to better address the various problems it faces, the Ministry of Forestry has identified five priority areas as the focus of its programme of activities for the period from 2001 to 2004. Over the next twenty years forest policy will be directed towards rehabilitation of degraded forest land and conservation of the remaining forest. This paper describes and analyses the policy trends within Indonesian forestry over the last three decades with a particular emphasis on the changing role of forests and the forestry sector in national development and the impact this has had on the sustainability of the forest resource. The analysis makes specific reference to protected area management (both conservation forests and protection forests), as governed by regulations separate from those that apply to production forests. The latest developments in forest policy formulation involving multi-stakeholder participation under the National Forest Programme (NFP) framework are explained and analysed. The various mechanisms which strengthen local participation, including the potential role of the NFP framework, are also discussed.

Key words : policy, forest, degradation, rehabilitation, conservation, planning, framework, participatory, stakeholders.

1 Introduction

Indonesia is an archipelago consisting of about 17,000 islands, with a forest area of 120.3 million hectares covering more than sixty per cent of the country's land area (see Box 1). From an ecosystem point of view, Indonesia can be classified into seven vegetation zones ranging from beach forest, peat forest, mangroves, low land tropical rain forest and savanna, to montane and alpine forest. Whilst Indonesia occupies an area equivalent to only 1.3 per cent of the total land area of the earth, the nation's biodiversity accounts for at least 10 per cent of all plant species, 12 per cent of all mammals, 16 per cent of reptile and amphibian species, 17 per cent of all bird species and 25 per cent of the world's fish species.

Traditionally, forests represented a resource upon which many Indonesian people depended for their subsistence and customary activities. More recently, along with a shift in the direction of national development during 1970s, forests have also generated employment as well as business opportunities. Out of a total population of about 206.6 million, an estimated 36 million people rely on the forestry sector for their livelihoods either formally (e.g. industry) or informally (e.g. forest-fringe communities) (MoF 2002).

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2 Overview of forests and forestry in Indonesia

2-1 General forestry issues

From a forestry development point of view, two distinct forms of resource management can be discerned in Indonesia. The forests of Java on the one hand consist predominantly of teak plantation, whilst the natural forests of the outer islands are more diverse with the predominant commercial species varying between regions. Thus, for example, Dipterocarp species predominate in Kalimantan and Sumatra, *Diospyros* species predominate in Sulawesi, *Eucalyptus* in the Moluccas, and *Pometia, Agathis* and *Araucaria* species in Irian Jaya.

Teak plantation forestry in Java was established under Dutch colonial rule and implemented through a participatory system termed 'taungya', which involved local communities in forest management. Later on, these forests were managed by Perum Perhutani, a state-owned enterprise with control over a forest area of about 1.8 million hectares. Sustainable management principles have long been practiced in this forest area, and mechanisms to involve local communities in forest activities have continuously improved to adjust to the latest developments and to meet the changing demands of stake-

Box 1

Forest land categorisation in Indonesia:
(a) Production forest (58.26 million ha)
(b) Protection forest (33.5 million ha)
(c) Conservation forest (20.5 million ha)
(d) Convertible forest (8.01 million ha)

Source: The Ministry of Forestry (2000)
(b) and (c) are also termed *protected areas*

Table 1 Development sectors supported by goods and services provided by forests.

Sectors receiving goods and services from forest	**Role of forests and forestry**
Agriculture	Allocation of forest land for agricultural purposes; provision of services in the form of watershed protection, erosion control, maintenance of soil fertility and provision of genetic resources
Resettlement	Allocation of forest land for resettlement programmes; incorporating both human settlements and agricultural land
Industries	Supply of water and raw materials; both timber and non-timber forest products
Mining	Forest areas to be opened for mine exploration and exploitation
Energy/power generation	Water power/energy, geothermal energy
Public works	Road construction through forest land; water supply for check dam
Public health	Clean water supply; pharmaceutical materials
Tourism and other environmental services	Natural beauty; amenity; biodiversity

holders. However, as compared to the plantation resources of Java, the differences in the area and characteristics of the biodiversity, natural rain forests of theouter islands necessitate a very different approach to forest management.

Prior to the 1970s there was no large-scale forest activity in the outer islands, and the forest resource in these regions was not considered an important source of national revenue. Since then, however, the direct contribution that the forestry sector has made to national development as well as the role it has played in supporting the growth of related sectors - including, for example, agriculture, resettlement, mining and other industries, energy generation, public works, public health and tourism - has been substantial. Forestry has become the second largest contributor to foreign exchange earnings since the early 1990s, after oil and gas production. The role of forests and forestry as a main support for the development of various other sectors is further illustrated in Table 1. Unfortunately, however, there is presently no formal reciprocal mechanism to guarantee the sustainable provision of goods and services derived from forests.

2-2 Specific issue : Indonesia's conservation forests

The conservation forests of Indonesia are of considerable importance not only within Indonesia itself but throughout the world for their high diversity of flora and fauna and their global natural value. Conservation forests account for approximately 17 per cent of Indonesia's total forest area, and together with protection forests form a total protected area of 54 million

Box 2

Relevant legal instruments in forest conservation management

(a) Act No. 4/1982, regarding basic provisions for the management of the living environment.
(b) Act No. 5/1990, regarding conservation of living resources and their ecosystems, and its explanation in the form of Government Regulations (PP):
- PP No. 13/1994 deals with hunting procedures,
- PP No. 18/1994 deals with ecotourism.

(c) Act No. 5/1994, regarding ratification of the Convention on Biological Diversity.
(d) Presidential Decree No. 43/1978, regarding ratification of the Convention on International Trade in Endangered Species (CITES) of Wild Fauna and Flora.
(e) Presidential Decree No. 48/1991, regarding ratification of the Convention on Wetlands of International Importance Especially as Waterfowl Habitat

Example of Planning Frameworks for forest conservation management

(a) The Indonesian Biodiversity Action Plan (1993), comprising strategies for action under four main categories:
- *In-situ* conservation in terrestrial parks and protected areas
- *In-situ* conservation outside protected area network
- Coastal and marine conservation
- *Ex-situ* conservation

The Action Plan is now in the process of revision.
(b) Spatial conservation planning frameworks, e.g. seven major bio-geographical zones.

Designation of Specific Protected Areas Status of International Importance

(a) Biosphere Reserves designated by UNESCO: Gunung Leuser, Tanjung Putting, Lore Lindu, Komodo, Siberut (Taitaibatti), Cibodas (Gede-Pangrango),
(b) World Heritage sites: Ujung Kulon National Park, Komodo National Park, and Lorentz National Park.

hectares, or roughly 45 per cent of the total forest area.

The Forestry Act of 1999 (UU No. 41/1999) defines conservation forest as a forest area with certain characteristics, whose primary function is the conservation of biological diversity - flora and fauna - and the ecosystems of which it forms a part. Conservation forests are divided into three different categories according to their main function, namely, sanctuary reserves, nature conservation areas, and hunting areas. Under the Conservation of Living Resources and their Ecosystems Act (UU No. 5/1990), sanctuary reserves are classified into strict nature reserves and wildlife sanctuaries, and nature conservation areas are sub-divided into national parks, grand forest parks and nature recreation parks.

In integrating the demands for both conservation of biodiversity and social development, the national park system of management is perhaps one of the most strategic approaches to protected area management. This is especially the case in a developing country such as Indonesia, where a large proportion of the population is dependent on forest resources for their livelihood, and as such a specific framework that addresses the requirements of nature conservation and livelihood sustenance must be in place for effective resource management. The increasing importance of Indonesia's national parks system can be seen from the continuous increase in the number of national parks from three in 1980, to 40 in 2000. These 40 National Parks cover an area of approximately 14.7 million hectares or about 72 per cent of the total conservation forest area and 27 per cent of the total protected forest area. In terms of the management of this resource, at least three zones are differentiated in national parks, namely, core zones where no human activity that may modify its natural integrity is permitted ; utilization zones where recreation centres and tourist destination development are allowed ; and other zones which, according to their function and condition, may be assigned as wilderness zones, traditional zones, rehabilitation zones, and so on. In addition, areas lying outside national park boundaries may be assigned buffer zone status, where human activity and resource utilization are permitted. In areas where local people are dependent on the resources available in the National Parks, community-based management systems have been introduced.

Considering the inherent characteristics of conservation forests, the government has taken various measures to secure them by law (see Box 2). Several legal instruments have been put into effect, and various planning frameworks have been developed through national initiatives as well as cooperation with international partners. The government has also recognized the value of a

number of Indonesia's protected areas that are of particular global importance, as shown by the support it has given in the designation of biosphere reserves by UNESCO.

Despite the volume of criticism expressed regarding the management of Indonesia's conservation forests and protected areas in general, as well as the problems associated with their management, it is also recognized that Indonesia is one among very few developing countries that has a workable planning framework for forest conservation (see Jepson and Whittaker 2001).

3 Forest Concession Holding (HPH[1]) System

3-1 Contribution of the forestry sector to national development

In the late 1960s, national development policy shifted towards export-oriented economic growth underpinned by natural resource exploitation. As such, the forestry sector has since played a crucial role in national development throughout the three decades since the early 1970s following the introduction of HPH, a system for the allocation of forest concessions. Between 1993 and 1994, the contribution of the forestry sector to foreign exchange earnings increased from US$3 billion to US$4.2 billion, placing the sector second in rank after oil and gas. The sector also made a significant contribution to the creation of employment, with between 3-4 million man-years of employment in forest management and industry generated per year in the 1980s and 1990s (Djakaria and Nasendi 1997). The development of the forestry sector also played a role in the reduction of poverty from 60 per cent in 1970 to 11 per cent in 1996 (World Bank 2000), and the increase in the average income per capita from US$80 in 1967 to US$1000 in 1995 (Djakaria and Nasendi 1997).

3-2 Timber-based industries : the demand for raw materials and the supply capacity of the forests

Along with the change of economic policy at the national level, certain adjustments were also made within the forestry sector. In order to increase the added value of timber, the government encouraged the development of timber-based industries and imposed a log export ban in 1985 to ensure the supply of logs to the industry, and thereafter an export ban on rough sawn timber in 1992.

The timber industries experienced rapid development for more than 10 years starting from the early 1980s, relying heavily on natural forest to supply the raw materials. For example, the plywood industry increased its total production capacity from 1.99 million m^3 per year in 1980 to 13 million m^3 per year in 1995, with an increase from 29 to 117 mills in operation over the same period (Paribotro 1997). NRMP-USAID (2000) reported that the total log intake of the timber industries in 1996 reached 48.2 million m^3, with 48.9 per cent accounted for by plywood mills, 31.1 per cent by pulp mills and the remaining 20 per cent by sawmills. For almost two decades, the forestry sector accounted for an average of 16 per cent of the foreign exchange earned per year (Djakaria and Nasendi 1997).

Unfortunately, rapid development in the industry sector has not been balanced by an improvement in regeneration capacity of the forest resource. MOFEC (2000) stated that the sustainable production capacity of the natural forests was only 25.36 million m^3 per year, resulting in a deficit of some 32.88 million m^3 between supply and demand. The large discrepancy between demand for logs and the supply capacity of the forest has brought about illegal logging and illegal trade, increasing the total degraded forest area to about 30 million hectares by 2000.

3-3 Lessons learnt from the implementation of HPH system

From the point of view of national development, the forestry sector has contributed to the economy in various ways, through the boosting of foreign exchange earnings, the creation of business and employment opportunities and the reduction of poverty in remote areas. However, despite these positive contributions towards the national development programme, the negative impact of this boom on the remaining forest resource and the environment in general has been overwhelming. Timber-oriented forest utilization as a major component of growth-oriented economic development has proved to be a failure in terms of the maintenance of a sustainable supply of logs from the natural forest.

A selection cutting system (TPI) was introduced at the beginning of the implementation of HPH in order to ensure the sustainable production of timber. Formal procedures for implementing TPI/TPTI[2] to encourage sustainable practices in natural forests were established, as were voluntary measures, such as guidelines for the appliance of reduced impact logging (RIL) techniques, and criteria and indicators (C & I) for SFM[3] were also introduced to ensure that the HPH system be carried out in a sustainable manner. However, a lack of law enforcement, monitoring and evaluation and an absence of any incentive scheme for good performance, are among the driving factors behind many of the problems currently faced by the forestry sector.

As revealed by MoF data (2001), the continuation of unsustainable practices for more than twenty years under the HPH era has been the major contributor to the rapid rate of deforestation in Indonesia. Of the 23.9 million hectares of degraded forest distributed across six major islands[4], roughly 60 per cent is production forest

[1] HPH : Hak Pengusahaan Hutan

[2] TPI/TPTI : Tebang Pilih Indonesia (Indonesian Selection Cutting)/Tebang Pilih Tanam Indonesia (Indonesian Selection Cutting and Planting).

[3] SFM : Sustainable Forest Management

Table 2 Area of degraded forest land in each of the six major islands.

Island	Percentage forest cover	Forest area in need of rehabilitation (million ha)
Java	42.3	1.32
Sumatra	36.9	8.36
Kalimantan	18.2	6.42
Sulawesi	21.3	2.42
Irian Jaya	12.6	3.91
Maluku	3.2	0.14
Total	-	23.9

Source: The Agency of Forest Planning/BAPLAN, MoF (2001)

area where HPH permits were granted.

4 Forest land use and land use change policy and their impacts

Based on respective differences in land use, Indonesian forests can be categorized into protection forests, with the forest serving a basic life support function such as watershed protection, maintenance of soil fertility or the prevention of floods, erosion and salinity ; production forests where the primary function of the forest is timber production ; conservation forests where the main function is the conservation of biological diversity and ecosystems ; and convertible forest land.

Under this system of classification, convertible forest land may be turned over to alternative uses such as transmigration, agriculture, estate crop plantation development, road construction and other public work projects. About 5.45 million hectares of forest has been converted for such purposes and along with the synchronization of TGHK (Forest Land Use by Consensus) and RTRWP (Provincial Spatial Planning), a total of about 8.01 million hectares of forest land has been assigned to this category[5].

Although land use change policy was intended to support the development of other sectors, according to a reassessment carried out by the Ministry of Forestry in 2000, only 41.21 per cent of the 4.5 million hectares approved for conversion to estate crop plantations has been developed as such (MoF 2000). Deforestation in Indonesia has been mainly caused by unsustainable harvesting practices, illegal logging, encroachment, forest fire, as well as abandonment of converted forest land. Hermosilla (2000) suggests, however, that identifying the relative magnitude of each of these contributory factors is a complex matter.

Based on Ministry of Forestry data (MoF, 2001), 23.9 million hectares of degraded forest land are in need of rehabilitation, excluding East and West Nusa Tenggara Provinces which have had uniquely low forest cover for some time. This total area of degraded forest land is distributed over six major islands, as shown in Table 2. Of these 23.9 million hectares, 15.49 million hectares were production forest, while the remaining 8.44 million hectares comprised protection forest and conservation forest.

5 The shift from centralised to decentralised governance and the impacts on the forestry sector

At the global level, the spirit of decentralization in natural resource management has gained considerable support since UNCED[6] in 1992, with a chapter of Agenda 21 emphasizing the need to strengthen the movement towards decentralized governance in balancing the concerns of development and the environment. The spirit of decentralization had already emerged in Indonesia some decades ago as a consequence of mandate UUD 1945[7] Article 18, enlisted under the constitution. However, although these regulations for decentralization have been in place for some time, decentralization as a process had hardly materialised.

Along with democratic reform in the system of government and demand from a large proportion of the Indonesian population for a shift from centralized to decentralized control, district level autonomy was granted under item UU No. 22/1999 in 1999, a component of mandate TAP MPR[8] No. XV/MPR/1998. With the

[4] excluding Nusa-Tenggara.

[5] Total forest area under TGHK was±144 million hectares. Implementation of RTRWP required adjustment of the forest area under TGHK. As a result of synchronization of TGHK and RTRWP, and forest conversion for other uses, convertible forest area has decreased from 30 million hectares in 1994 to 8.44 million hectares in 2000.

[6] UNCED : United Nations Conference on Environment and Development

[7] UUD 1945 : Undang-Undang Dasar 1945/Indonesian constitution

[8] TAP MPR : Ketetapan Majelis Permusyawaratan Rakyat/ The Parliamentary Decision.

commencement of UU No. 22/1999, most development sectors began a move towards decentralization and, under PP No. 25/2000, district level governments were given the authority to regulate and manage their own resources. In the forestry sector, efforts to devolve part of the authority over forest management to district level governments have been implemented since 1994 under Ministry of Forestry decree No. 86/Kpts-II/94. Authority over five components of forest management were granted to district governments, namely, afforestation ; soil and water conservation ; silk moth and bee culture ; private forestry ; and forestry extension. Furthermore, under PP No. 62/1998, management of Taman Hutan Raya (provincial parks) and the gazetting of forest land have been decentralized to provincial governments, and district governments have been granted authority over five additional components of forestry management. These are : management of protection forests ; non-timber forest products ; traditional hunting of unprotected fauna ; forest protection ; and forestry training for local communities.

With regards to the implementation of UU No. 22/1999 and PP No. 25/2000, the biggest challenge to the decentralization process in the forestry sector has been balancing the need for development and an immediate income for communities in decentralized regions, against the need to maintain resource sustainability. Another challenge to the process has been the level of inconsistency between autonomous governments in interpreting UU No. 22/1999 and Forestry Act No. 41/1999. The tendency of autonomous governments to maximize revenue from local resources - called as PAD (Pendapatan Asli Daerah) - and the absence of any government regulations which elaborate on the implementation of UU 41/1999 on the ground, has resulted in various conflicting interpretations. This has brought about a negative impact on the sustainability of the forest resource. In addition, there have been hundreds of cases where the implementation of decrees concerning utilisation of forest resources issued by district governments has resulted in further degradation of forest land.

6 Forestry sector restructuring

Over the past decades, tropical rain forest in Indonesia has declined considerably as a result of unsustainable forest practices. Illegal logging, forest fire and improper implementation of forest land use change the causes for the current problems faced by the forestry sector. According to MoF data (2001), approximately 23.9 million hectares of degraded forest land exist in Indonesia, spread across six major islands, namely, Java, Sumatra, Sulawesi, Kalimantan, Irian Jaya and the Moluccas.

For the next 20 years, forest policy in Indonesia will focus on securing the tropical rain forest through rehabilitation of the degraded forest land and conservation of the remaining forests. As part of a restructuring of policy, the following five issues are identified as the central focus of MoF programes and activities during the period 2001–2004 :

- Illegal logging
- Forest fire
- Timber-based industry restructuring
- Timber plantation development
- Decentralization in forest management

The Ministry of Forestry has also set forth a number of government regulations (PP) under UU No. 41/1999, and other proposed government regulations (RPPs) are currently under negotiation among related parties (for example, RPPs on *Adat* community, forestry planning and forest conservation). The government has recently enacted two PPs, one regarding forest land allocation, forest management planning and forest and forest land use[9] (PP No. 34/2002), and a second regarding a reforestation fund (DR)[10] (PP No. 35/2002). A number of ministerial decrees which elaborate on these acts have yet to be finalized. These ministerial decrees will be the basis for implementation of PP No. 34/2002 and PP No. 35/2002, and will give a clearer direction for how forest policy regulated by the two PPs will enable all relevant stakeholders to address the following five policy issues more appropriately.

Illegal logging and illegal trade has become a serious problem for Indonesian forestry, especially in recent years. Based on timber supply and demand data from 1997 and 1998, roundwood consumption (domestic use and export) was found to be 32.6 million m^3 (approximately 51 per cent) higher than supply derived from legal production plus import (Scotland 2000). It has been estimated that the country has lost revenue of about US $600 million per year as a result of unpaid taxes and levies on this illegal trade (Baird 2001). Other losses brought about by illegal logging, including for example, environmental degradation, social and economic impacts (e.g. the loss of employment opportunities) and a decrease in food and income sources amongst forest fringe communities, have not yet been fully valued.

Forest fires are another challenge that Indonesia is currently facing. Forest fires can be either human-induced or have natural causes. Some regions are particularly sensitive to fire initiation (e.g. Kalimantan's forest area which is rich in coal deposits) while in other regions the causes of forest fire are mainly human activity, usually either as a result of plantation establishment or arson. Forest fires in 1997/1998 affected an area of about 9.7 million hectares, 4.8 million hectares of which was forest land. Based on National Planning and Development Board data (BAPPENAS 1999), total economic losses as a result of forest fires reached US $9.3 billion.

Both the frequent occurence and causes of forest fire in Indonesia have become matters of national concern,

[9] PP No. 34/2002 tentang 'Tata Hutan dan Penyusunan Rencana Pengelolaan Hutan, Pemanfaatan Hutan dan Penggunaan Kawasan Hutan.

[10] PP No. 35/2002 tentang 'Dana Reboisasi'.

which now require concerted inter-departmental action. Various measures have been taken to mitigate against the causes of fire including regulations, the establishment of early warning systems, institutional reform and human resource development. A national coordination team on forest and land fire was established in 1997.

Restructuring of the timber-based industries is deemed necessary to ensure the sustainability of the forest resource, by controlling the demand for logs from domestic sources. The increase in consumption of logs from 3.2 million m^3 in 1967 to 70 million m^3 in 2000, with the majority of the raw material (about 96 per cent in 1998) originating from natural forests, cannot be balanced by production within the remaining forests.

In an effort to restore production capacity and prevent further degradation of natural production forest, a selective moratorium on logging and gradual reduction of annual allowable cut (soft landing policy), will soon to be implemented. Furthermore, in order to improve the management of natural production forests, the Ministry of Forestry has asserted criteria and indicators (C & I) for sustainable management of natural production forest as compulsory measures, since the enactment of ministerial decrees No. 4795/Kpts-II/2002 and 4796/Kpts-II/2002. Decree No. 4795 sets forth the criteria and indicators for sustainable production forests at the management level, while Decree No. 4796 consists of procedures for evaluating sustainable production performance at the management level. This represents a major shift in Indonesian forest policy in order to address problems associated with unsustainable practices in natural forest management. Voluntary measures (e.g. timber certification), whereby private companies implement the C & I of SFM for the purpose of meeting the requirements of timber importing countries, also continue to be applied. That is, the compulsory C & I of SFM are the responsibility of companies to the Ministry of Forestry, while voluntary C & I are a means for forest companies to improve their performance within the international market.

Plantation forest development. As the timber industry has relied on natural forests for its wood supply, the supply capacity of the forest has continuously decreased and now the development of timber plantations needs to be enhanced.

Commercial timber plantation development in outer islands under the industrial plantation forest programme (HTI/Hutan Tanaman Industri) began in the early 1980s. At that time, the total plantation forest (HTI) area was set to reach 6.2 million hectares by the year 2000. However, several factors such as lack of land suitability assessment, limited availability of genetically improved seed, insufficient technical knowledge as well as other experiences of commercial timber plantation development in the outer islands, have together contributed to the low success rate of the HTI programme. Although reliable data on the achievements of the HTI programme is lacking, based on information gathered from a number of HPHTI holders (timber plantation companies), it appears that a total of about 1 million hectares of HTI using fast growing species has been successfully established.

Under the current circumstances, a large area of degraded forest land exists and enhancement of timber plantations needs to be carried out in line with the long-term policy focus of forest and land rehabilitation. PP No. 35/2002 regulates the use of reforestation funds (DR) for various activities under forest and land rehabilitation. Although there is possibility under PP No. 35/2002 to use DR to finance timber plantations through loans, commercial timber plantation companies need to be encouraged to mobilize alternative funding other than DR.

Decentralization in forest management was basically intended to encourage the sustainable management of forests in the regions, and hence contribute to the development of the autonomous provinces and districts. As a corollary characteristic of a forest resource which requires a landscape level, ecosystem approach to management in order to secure sustainability, the boundaries of an SFM unit are in most cases not compatible with the administrative boundaries set at the district or provincial levels where autonomy has been granted. Therefore, decentralization in the forestry sector needs to be implemented with caution. All stakeholders need to realize the importance of review in the decentralization process in relation to forest resource management, as well as the crucial role that sinergy between autonomous governments and other stakeholders must play.

6-1 Community development

Community development will be embedded into each of these programme elements and other activities that address the five priority areas. There have been various government programmes established which are relevant to community development, as discussed in more detail in a later section of this paper. However, some adjustments are needed to suit the current conditions and stakeholders needs. A number of approaches to community development exist at present, which have been initiated by various parties to address local problems in natural resource management, including forests. Some approaches have showed positive impacts especially in strengthening capacity of local institutions, one example being collaborative forest management in a number of districts where local communities are encouraged to actively participate in all stages of forest management, from planning formulation to product marketing. Relevant aspects of community development are discussed in more detail later in this paper under the section 'strengthening local participation through NFP framework'.

7 Rehabilitation and conservation

As stated earlier, over the next twenty years, forestry

sector policy will be focused on rehabilitation of the degraded forest land and conservation of the remaining forest. Rehabilitation in this context refers to all planting activities as stated under Forestry Act (UU No. 41/1999) Article 41, which is intended to restore, protect, and improve forest function, so that carrying capacity, productivity, and the role of forests as a life support system can be retained. The five priority foci (namely, combating illegal logging, controlling forest fire, timber-based industry restructuring, enhancing timber plantation development, and smoothing decentralization) are part of the Ministry of Forestry long-term programme for securing forest resources for the future. In terms of financial resources for carrying out the programmes and activities to achieve this long-term objective, the reforestation fund (DR) will provide the main source of national funding. The Government has just put into effect PP No. 35/2002, which will regulate the use of the reforestation fund (DR). As a consequence of other policies such as the selective moratorium on logging and soft landing (gradual reduction of annual allowable cut), forestry sector revenue for input into the DR will decline considerably. It is expected that the decrease in revenue will be about 60 per cent. Hence, the financial aspect of management of this long-term policy objective will be a major challenge.

The other long-term policy focus - conservation - should be seen in broad perspective, that is, in a sustainable forest management context. Hence, conservation activities will not only be carried out in protected areas (protection forest and conservation forest), but also in production forest. Forest-based environmental services - a potential role for Indonesian forests which is currently under-valued - demand further attention. The off-set of carbon emissions, watershed protection, biodiversity conservation and eco-tourism are among the environmental services that forests can provide, as has been internationally recognized through the development of environmental measures and mechanisms under various conventions (e.g. UNFCCC/Kyoto Protocol, CBD, CCD)[11]. In Indonesia, PP No. 34/2002 regulates the utilization and development of forest-based environmental services. The challenges here involve inconsistencies between national legislation as operated under international agreements, and the adjustments and other legal measures that are needed in order to optimise the use of resources under various schemes (national or international). Aside from PP No. 34/2002 under Forest Act UU No. 41/1999, a second piece of legislation, UU No. 5/1990, also deals with forest-based environmental services, and in particular the conservation of living resources and their ecosystems. Under the existing regulations and planning frameworks on conservation forest management, forest-based environmental services may be further developed, and there remains much room to improve enabling conditions for such purposes.

8 Role of National Forest Programme (NFP) as a policy framework

8-1 Translating international processes into national and forestry sector development objectives

As a follow up to the IPF/IFF[12] process, it has been recommended that NFP be implemented by member countries. Indonesia has been actively involved in formulating IPF/IFF recommendations for sustainable forest management. Furthermore, Indonesia was among the six countries preparing the *Practitioner's Guide to the Implementation of the IPF Proposals for Action.*

A number of forest related conventions and other international agreements have become the core of the recommendations, which were further translated through the IFF/IPF/UNFF[13] processes. IPF/IFF recommendations consisted of various foci for various forest types and country conditions. It is the sovereign right of each country to translate these international recommendations to suit national conditions and development priorities.

The five-year national development programmes (PROPENAS[14]) concerning the utilization of natural resources emphasized the need to manage or utilize the resources on a sustainable basis. The national programme on natural resource management was further translated to suit the priorities and objectives of forestry sector development.

Basically, most of the IPF/IFF recommendation/proposals for action have already been implemented or followed up by the forestry sector. However, as they have been considered as part of the sector's development priorities (and therefore did not necessarily refer to conventions or other international agreements), the efforts have not been recognized internationally. Such national level action includes : a national forest and land use programme ; a watershed management approach for dealing with areas affected by drought ; and the development of criteria and indicators for sustainable forest management (SFM).

8-2 Strengthening local participation through NFP framework

Local participation in forestry was strongly advocated at UNCED (1992). In Indonesia, a number of forestry related programmes, which involve local people, have been in place for some time. The oldest system, known as *taungya,* allows people dependent upon the forest to grow cash crops under young teak stands in the Perum

[11] UNFCCC : United Nations Framework Convention on Climate Change ; CBD : Convention on Biological Diversity ; CCD : Convention to Combat Desertification.

[12] IPF : Inter-governmental Panel on Forestry ; IFF : Inter-governmental Forum on Forestry

[13] UNFF : United Nations Forum on Forestry

[14] PROPENAS : Program Pembangunan Nasional

Box 3

Some examples of active involvement of local communities in forest management.

Kalimantan Model for Social Forestry. A 12-year cooperative Social Forestry Development Project (SFDP) between Indonesia and Germany initiated in 1990. The goal of the SFDP has been to develop an approach to sustainable forest use while improving the living standards of rural local communities. The project emphasizes the active role of local communities as an integral component of the process.

Collaborative Forest Management (PHBM/Pengelolaan Hutan Bersama Masyarakat). Land tenure has been a dominant issue in recent years, along with the decentralisation process in Indonesia. An increasing number of conflicts over land tenure have forced the government and other stakeholders to resolve a framework to address the issue. A number of *collaborative forest management* initiatives, where local communities actively participate in the process from planning formulation, show positive results and seem to be one possible way to deal with such conflicts.

Perhuntani teak plantations of Java, over a period of years. In the outer island, various plans to involve local people in forest activities have been put into practice since the early 1970s when the concession-holding system was initiated. However, the programme was intensified in 1991 in the form of a forest-village community development programme called PMDH. The programme has been conducted by concession-holders in conjunction with target villages surrounding the forest area. In order to further encourage the involvement of local people and small holders, the government has created opportunities for local cooperatives to buy some of the concessionaire's bonds and stocks.

Under Forestry Act No. 41/1999, it is possible for individuals and cooperatives to be granted a license to undertake some forest-based business, such as those involving environmental services and non-timber forest products. Also, under the same act, any large-scale enterprise that is granted a license for a forest-based enterprise should involve local cooperatives. Forest land tenure and resource user rights are also recognized under the Forestry Act, UU No. 41/1999. Furthermore, as a follow up to the Ministry of Forestry Decree, No. 31/Kpts-II/2000 regarding the implementation of community forest-based management, the government has released 26 permits for local community-based forest management programmes, covering an area of about 66,214 hectares, spread across 10 provinces.

The lessons learnt from these various programmes which involve local people include the realisation that the community groups usually have a weak bargaining position, and that this has often been the main hindrance to the programme's development. For this reason, strengthening the capacity of local communities and its institutions must be prioritised if any such programme is to be successful. On this subject, this paper advocates that these issues be brought under the NFP framework. As is well known, a capacity building programme with institutional strengthening is one of the main elements of NFP. The programme for strengthening the capacity of local communities and their institutions should have a strong position within the NFP framework, as the process should be based upon participatory methods involving a wide range of stakeholders at various stages, from policy formulation up to the review of policy implementation. The view that participatory, community-based management programmes be worked into the NFP framework is also based on some experiences of collaborative forest management that have been practiced for several years at the local level. These experiences have revealed the positive impacts of collaborative involvement both in terms of the communities' improved capacity to evaluate the forest resource, as well as the quality of forest management itself (see Box 3).

8-3 NFP process in Indonesia

There have been a number of initiatives designed to encourage multi-stakeholder participation in dealing with various forestry issues in Indonesia. In particular, multi-stakeholder processes which focus on specific local issues of limited scope have been carried out in a number of regions. However, despite the success achieved in most cases, the results cannot be applied to address nation-wide issues. The Ministry of Forestry as the body responsible for forest area management, initiated in 2001 the formation of a working group to the National Forest Programme, following a decree from the minister of forestry. In order to formulate a National Forest Policy Statement (NFS) - which will form the basis for all stakeholders to contribute to sustainable forest management - the working group has identified various issues relating to the forestry sector and undertaken consultation with stakeholders at the various levels.

9 Analysis

Policy trends in Indonesian forestry cannot be separated from trends in national policy since the sector has been one of the major contributors to national eco-

nomic development. The current condition of the forest resource, however, as well as additional pressure from various groups of the community at various levels, demands substantial reform in the forestry sector. In response to this situation, the Ministry of Forestry has identified rehabilitation of degraded forest land and nature conservation as its foci in its attempt to bring about a major restructuring within the sector. Immediate action which targets the five priority issues for improved forest management was initiated in 2001, and will continue for a four year period to support the restructuring efforts.

A change in the focus of forest policy from production to rehabilitation, together with a selective moratorium on logging and soft landing (a gradual reduction of annual allowable cut), will bring about certain economic consequences, particularly with regard to the supply of raw materials to the timber industry. It also implies a decline in revenue for the forestry sector, which has been heavily dependent on natural forests for its timber production. Further implications of this policy include the decrease in the contribution of the forestry sector to foreign exchange earnings. However, the decrease in revenue caused by the decrease in timber production may be compensated for by the increase in importance of other forest products and services, and it is believed that the total value of the forest resource will increase as its social, economic and environmental values are recognised.

In order to achieve the long-term objectives of rehabilitation and conservation, plantation forest development needs to be enhanced not only to meet industry demand for logs, but also for restoration purposes. Identifying which financial resources may be mobilized to support activities set up to achieve these objectives, is now the most pressing question. With limited reforestation funds (DR) available for the near future, prioritisation of activities to be financed by DR is deemed necessary. The forestry sector needs to have a financing strategy, which will enable it to mobilize various funds from both domestic and international sources, and so map the programmes of activities to potential funding sources. In so doing, it is expected that funding gathered through various mechanisms can be utilized wisely.

In the context of financing strategies for global sustainable forest management, there has been a shift away from those which have concentrated solely on wood-based products, towards a forest-based approach recognising environmental services. The role that forest-based environmental services can play in addressing the challenges of economic development and environmental management, have continuously gained recognition in international processes. Although the accounting methodologies for such services are still in their infancy, the interest of the private sectors in this matter has continuously grown. For example, carbon-trading under both Kyoto Protocol and non-Kyoto Protocol mechanisms have attracted particular interest from the private sector. The attractiveness of these mechanisms is due to the opportunity it creates for Annex I countries to meet part of their obligations under the Kyoto Protocol through CDM[15], as well as the business opportunities in carbon-based projects currently under non-Kyoto mechanisms, which may later be traded in the form of CER[16], or may count towards Annex I countries' obligations under the Kyoto Protocol, although the use of the latter mechanism is still under debate. For the private sector in Indonesia, carbon-based projects will be more attractive if unilateral CDM is accepted.

Business schemes for watershed protection and biodiversity conservation have also emerged in some countries, which could be adopted by Indonesia and modified to suit local conditions. For the forestry sector, such trading and business schemes could contribute towards SFM efforts, conserving biodiversity and improving the management of protected areas, if planned and managed carefully.

Policy which has decentralised resource authority to district level, has had some negative consequences on the sustainability of forest resources. Although from a timber production point of view the economic value of Indonesia's forests varies from those of high commercial potential, to those of only conservation importance, business schemes which capitalise on the services provided by protected areas (protection forest and conservation forest), have yet to be fully explored. For example, conflicts of interest between upstream and downstream regions of neighbouring districts or provinces often exist, but there remains the potential to develop the concept of a compensation mechanism by which upstream regions are reimbursed for the services that are enjoyed by down stream regions. However, for effective implementation of such concepts, legislation would be required.

Given the current condition of the forest resource (i.e. a large degraded area) and that forest-related processes at various levels demand a balance between conservation and development, a long-term policy that focuses on rehabilitation and conservation seems to be the most appropriate one. The policy also comes at a critical time, as Indonesia faces heavy criticism and pressure in relation to its management of production forest, to the extent that international recognition of various aspects of its conservation forest management have been overlooked. The latter includes the designation of some protected areas as biosphere reserves and world heritage sites, as well as a planning framework for conservation forest management that is widely considered a workable framework, despite a certain number of inconsistencies.

The National Forest Programme (NFP) that has been initiated in Indonesia provides a suitable policy frame-

[15] CDM : Clean Development Mechanism
[16] CER : Certified Emission Reduction

work for community development that aspires to community capacity building and institutional strengthening. Under this framework, the community development element of forest management which has to be embedded in every programme set up by the MoF, as discussed earlier in this paper, can be carried out successfully.

10 Concluding Remarks

National development priorities over the last three decades required support from the forestry sector, both in providing forest products and forest land for other uses. The negative consequences of this policy that are currently being faced by the forestry sector require a major shift in policy direction. The long-term policy outlook of rehabilitation and conservation now implemented by the Ministry of Forestry is considered to be the most appropriate. Despite the past failures in management of natural production forest, the management of protected areas, especially conservation forest, already has a planning framework that has been internationally recognised as a workable framework, though with room for further improvement. Lessons learnt in developing a planning framework for conservation forest will be useful in improving the existing planning framework for production forest.

The problem of forest decline in Indonesia is a complex one, driven both by internal factors, as well as external ones such as international trade. Hence, strengthening the efforts of government and other stakeholders remains an urgent need. Furthermore, the support of the international community is necessary, especially in dealing with trans-boundary challenges, such as the illegal import and export of flora and fauna.

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Participatory Forest Management in India
—An Analysis of Policy Trends amid 'Management Change'—

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Abstract: A participatory approach to forest management organized at a grassroots level by community-based institutions has been implemented in India since the 1970s and is considered, by and large, to be successful and an ideal forest management model in the present world forestry scenario. The principle of participatory forest management, popularly known as joint forest management in India, is based on 'co-management' and a 'give and take' relationship between the two major stakeholders, village communities and the Forest Department, mediated in most cases by a non-governmental organization. It is a total departure from earlier forest policies practiced in India, whereby the Forest Department managed forests primarily to generate the maximum possible revenue for the State, whilst excluding village communities from the management process. However, the 'management change' that has brought people-oriented forest policies to the fore is not a new phenomenon, nor one that has appeared suddenly. Rather, it is the outcome of several factors including the inability of the Forest Department to prevent the degradation of the forest resource or abate the decline in forest cover that has occurred throughout the country, as well as the failure of policy to accommodate and account for traditional forest use patterns and age-old relationships between local communities and forests. This paper addresses the processes and circumstances that led to the evolution of participatory forest management in India as well as the past and present forest polices that facilitated this change. Emphasis is placed on an analysis of recent forest policy directives aimed at facilitating the implementation of participatory forest management. This paper is divided into four sections. Section 1 briefly summarizes forest management in India during the period of British rule from the people's perspective. Section 2 traces the genesis of participatory forest management in India. Section 3 examines the policy directives aimed at facilitating the implementation of participatory forest management in India and analyzes the emerging policy issues and challenges confronting participatory forest management. In so doing, it describes the 'learning curve' achieved in the development of participatory forestry management, which has ushered in a 'management change' in the Indian forestry sector. This paper ends with a concluding section.

Key words: Participatory/joint forest management, forest policy, policy failures, management change, joint forest management committees, policy issues and challenges.

1 Forest Management under British Rule

Natural resources have always been an integral part of the Indian economy and culture and are held in high esteem. Ancient religious, political and literary writings are testament to the fact that people have historically been considered an integral part of nature and not superior to it. However, it is difficult to generalise about historical forest management practices in India given the diversity of culture, forest types and administrative systems found in different parts of the country ; indeed natural resources were formerly managed by princely states under different land tenure systems. However, a great deal of documentation regarding forest management regimes under the British administration is available ; in this section, discussion is confined to the colonial approach to forest management and its policies concerning people dependent on forests.

It is well known that many of the forests in India have, at different points in the nation's history, been managed under a set of rules and regulations developed by different communities. Even today, some of these so-called self-initiated forest protection groups have survived or have been re-invented in response to the need of the hour to conserve community forests[1]. Given this context, it is necessary to point out at the outset that participatory/joint forest management[2] is not new to India ; it is a re-invention of the successful forest management practices of the past.

1.1 State versus community interests

1.1.1 National Forest Policy, 1894

The British administration directed its forest policy towards commercial interests and the development of agriculture, which was a major source of revenue. These motives are explicitly documented in the National Forest Policy of 1894, the first formal forest policy in India. This policy stipulated that "forests which are the reservoirs of valuable timbers should be managed on commercial lines as a source of revenue to the States" and that "wherever an effective demand for culturable land exists that can only be supplied by a forest area,

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[1] The self-initiated forest protection groups are now being recognized and registered as joint forest management committees, giving them the necessary legal support under the ongoing participatory/joint forest management programme in the country.

[2] In this paper, 'participatory forest management' has been used interchangeably with 'joint forest management'.

the land should ordinarily be relinquished without hesitation..." (Government of India 1894). According to this policy, the sole motivation by which forests were administered under British rule was the promotion of state interests.

For management purposes, the British administration divided the forests into four classes, as described in the National Forest Policy of 1894. The first class of forests were generally situated on hill slopes and were deemed essential for the protection of cultivated plains from damage caused by landslides and hill torrents. In this sense, they served a conservation role for the benefit of agriculture in the plains. The second class of forests included the vast reserves of valuable timber trees including *Cedrus deodara, Shorea robusta* and *Tectona grandis*. Driven by commercial interests, forest management measures were developed to promote natural regeneration of these first two species and artificial regeneration of the third. In certain parts of northern and eastern India, however, techniques for the artificial regeneration of *Shorea robusta* were developed by means of the *taungya* system[3] (Government of India 1976).

Using forests to meet people's needs was not a priority consideration for the British administration. People's requirements were to be met by the third class of forests - 'minor forests' that yielded only inferior timber, fuelwood or fodder - and by the fourth class of forests - 'pastures and grazing grounds' to which certain restrictions were applied. In general, the policy dictated "the constitution and preservation of forests and, to a greater or lesser degree, the regulation of rights and the restriction of privileges of users in those forest areas which may have previously been enjoyed by the inhabitants of the immediate neighbourhood" and further suggested that "the cardinal principle to be observed is that the rights and privileges of individuals ... be limited" (Government of India 1894). To conclude, people's interests were made subservient to the State's commercial interests with regard to forests during colonial rule.

1.1.2 Indian Forest Act, 1927

Likewise, the implementation of the Indian Forest Act, 1927 by the British Administration also had an impact on those communities dependent on forests. The Indian Forest Act was drafted first in 1865, placing most forests under state ownership. It was further revised in 1878 and consolidated in 1927. Thus it is important to note that the National Forest Policy of 1894 evolved from the objectives of forest management as outlined in the (draft) Forest Act of 1865 and 1878. The Indian Forest Act, 1927 was "an Act to consolidate the law relating to forests, the transit of forest produce and the duty leviable on timber and other forest produce" (Government of India 1927). The text of this Act was divided into 13 chapters with a plethora of rules and regulations, penalties and procedures aimed at extending the Government's control over forests as well as diminishing the status of people's rights to forest use. To give an example, a clause from Chapter III 'Of Village Forests', Section 28(2) states that "the State Government may make rules for regulating the management of *village forests*[4], prescribing the conditions under which the community ... may be provided with timber or other forest produce or pasture, and the duties for the protection and improvement of such forest" (Government of India 1927). Thus, this Act facilitated the State's grip over forests and consequently communities were deprived of many of their traditional rights over forests. That is, "people's rights to use forests were extinguished and replaced by privileges" (Hobley 1996). This Act further alienated village communities from their age-old symbiotic relationship with forests.

The Indian states adopted the Forest Act of 1927 after independence in 1947. Subsequently, the Act was modified through several amendments, mostly to curtail local use of forests. Furthermore, the Indian states promulgated their own Forest Acts. For example, The Orissa (State) Forest Act, 1972 provided that no claim for shifting cultivation should be allowed in areas notified for reservation (Pathak 1994). According to Pathak (1994), in the post-independence era "forest offences as outlined in the Indian Forest Act, 1927 were recategorised and harsher punishments were provided". Attempts to curtail local forest use by affecting changes to this Act continued until the early 1980s. However, the situation changed in the early 1980s as non-governmental organizations and people's groups resisted the measures imposed by the government. Currently, a facelift of the Indian Forest Act, 1927 is underway in the context of the present forest management regime. Since the adoption of the National Forest Policy of 1988 (discussed later), it has been proposed that all state forest laws and amendments be updated and consolidated to bring about a uniform law throughout the country.

1.2 People's resistance against the State

An analysis of the National Forest Policy, 1894 and the Indian Forests Act, 1927 suggests that the rights of people to forests under erstwhile rulers in the pre-colonial era were further limited. It is also evident that many of the informal forest management institutions that operated at the grassroots level collapsed after the takeover of the forests by the British administration, leading to an erosion of social capital. However, in some cases people actively opposed the State take over and demonstrated against the curtailment of public rights. Two such cases of resistance by local communities in the

[3] Under the *taungya* system, people were granted temporary rights to raise agricultural crops for a period of a few years in return for tending forest plantations.

[4] The Indian Forest Act, 1927 included a provision for the transferal of a *reserved forest* - which was State property - to a village community ; such forests were called *village forests*.

state of West Bengal (Poffenberger 1995) and Uttaranchal (Guha 1983 ; Ballabh and Singh 1988 ; Ballabh *et al.* 2002) are summarized here. These two cases had a remarkable impact on the Indian Forestry sector in the years that followed.

In the pre-colonial period, Mughal rulers were unable to exert political authority over forest-dependent tribal communities in the Jungle Mahals of the western Midnapore District in the state of West Bengal due to the inaccessibility of the area. Tribal communities protected their forest resources based on 'warfare and withdrawal'. The forest- and subsistence-oriented lifestyle of tribal communities, however, changed with the emergence of British colonial rule in Bengal in the late 18th century as the British administration tried to impose their authority and to extract land revenues through *zamindars*. Under a land tenure system termed *zamindari,* lands were granted to revenue farmers or rent collectors called *zamindars,* who had to pay a fixed amount annually as land revenue to the state. The British administration also encouraged *zamindars* to convert open forests into agricultural land, evidently to enhance the revenue earned. It is important to note in this context that such revenue-oriented measures were advocated well before the implementation of the (draft) Indian Forest Act, 1865 and the National Forest Policy, 1894.

The tribal communities reacted violently to the British administration in a series of armed revolts. The first of these, popularly known as the Chur Rebellion, lasted from 1767 to 1800. Later on, the British administration increased its grip over this region despite the resistance put up by tribal communities from time to time. With the passage of time, the tribal communities were marginalized and their traditional usufruct rights were restricted or eliminated. These forest-dependent communities were further affected by worsening ecological conditions resulting from conversion of forest into agricultural land and mounting pressure on forests for *Sal* (*Shorea robusta*) logs to meet the demand for railway sleepers to expand the country's railway network. Even after independence, the living conditions of tribal communities and other low caste people further deteriorated in this region. They were reduced to agricultural labourers or sharecroppers and suffered the loss of income from forest-based activities as the forests were cleared. Such conditions resulted in the Naxalite uprising in the Arabari area of Midnapore, West Bengal, in the 1970s, which further hastened the depletion of forest cover due to the inability of the Forest Department (FD) to protect the forest resource. As a result of such developments as well as the eventual prudence of Forest Department personnel, this region later became the site of the first experiments in Joint Forest Management (JFM), as discussed in Section 2.2.

Similarly, in response to stark public opposition to State efforts to nationalise and exploit forests that had long been under local control, *Van Panchayats* (village forest councils) were established in the state of Uttaranchal (previously known as Uttar Pradesh Hills) during the early 20th century. Under the provisions of the Forest Act of 1878 and settlements thereafter, all land except cultivated land was brought under the control of the FD and a wide range of restrictions were imposed on grazing, lopping and collection of forest produce. However, in 1916 a group of the Indian elite organized people in Uttaranchal to challenge the State reservation of forests for the impact it was having on local livelihoods.

As a result of such protests, the Forest Grievances Committee was set up by the state to look into the matter. Realizing that further efforts to impose forest regulations were likely to be met by stiff resistance and thus strengthen calls for independence, the committee recommended reclassification of state forests. In consequence, the status of reserved forests of low commercial value but of high livelihood value to local people was rebuked and *Van Panchayats* were instituted for their management. *Van Panchayats* were instituted on the principle of participatory forest management and gained the full legislative support of the state. This is a classic illustration of how the concept of participatory forest management originated well before the independence of India in 1947 and as an outcome of popular resistance to State management regimes. Today, the state of Uttaranchal has more than 4,800 *Van Panchayats* managing 244,800 hectares of forest area spread over six districts[5].

2 Genesis of Joint Forest Management

Continuous deforestation and the degradation of forests leading to a decline in forest cover have long been sources of concern for policy makers in India. Indeed, had there not been such large-scale deforestation and forest degradation in India, it is unlikely that any policy maker would have given serious thought to the 'participatory forest management' model. The need of the hour and the backlash of policy failures have led to the emergence of a new institution and rationale for the origin of a 'participatory forest management' model within the Indian forestry sector. This section discusses why the government commenced participatory forest management in India.

2.1 Misdirected forest policies

There are conflicting views on the reasons behind deforestation and forest degradation in India. State FD personnel hold the people living in and around the forests responsible for deforestation and forest degradation. If this is the case, the question arises as to what circumstances led local people to change their attitude given the existence of traditional symbiotic systems for forest

[5] The Forest Department is formally bringing the *Van Panchayats* under the fold of the ongoing Joint Forest Management programme.

use. The likely circumstances are addressed here in an attempt to answer this question.

The Government of India enacted the first post-independence National Forest Policy in 1952. An attempt to revise rather than entirely reconstruct the preceding forest policy, the 1952 policy did not alter the fundamental principles which underpinned the Forest Policy of 1894 (FAO Staff 1953). In fact, the 1952 policy "asserted that the fundamental concepts underlying the colonial policy were sound ; they just needed to be reoriented" (Pathak 1994). In the context of post-war reconstruction, the National Forest Policy of 1952 was required to accommodate and endorse heavy demand on forests as a number of industrial expansion and river valley and communications development schemes got underway.

The National Forest Policy of 1952 proposed a functional classification of forests into *protection forests, national forests, village forests* and *tree-lands* (Government of India 1952). This new classification was in no way divergent from that of the Indian Forest Act of 1927 except for the introduction of tree-lands as a new functional category. According to 1952 policy, tree-lands were defined as "those areas which, though outside the scope of ordinary forest management, are essential for the amelioration of the physical conditions of the country". However, this functional forest classification was never implemented and, likewise, most of the other policy statements made under the auspices of this policy were not effectively implemented. One of the reasons for this ineffectiveness was that this policy was issued as a resolution by the government but was not adopted by the State Legislatures (Government of India 1976).

With regard to public involvement in forestry, the National Forest Policy of 1952 laid down that "it would be the duty of the forester to awaken the interest of the people in the development, extension and establishment of tree-lands wherever possible, and to make them tree-minded" (Government of India 1952). As with other policy proposals (such as 'balanced and complementary land-use', which sought to bring 60 per cent of the land area in mountainous regions and 20 per cent of the plains under forest cover), however, this was a general statement lacking any concrete definition for how this might be achieved. To be precise, the policy did not provide any strategic appraisal of how to bring about public participation in forest management. Rather, the government continued with the British forest policies even after independence. Thus it can be concluded that the National Forest Policy of 1952 evolved in the shadow of past policies.

The wood-based industries benefited the most from the forests in the post-independence era in the form of state subsidized raw material. This strategy was adopted to promote the wood-based industries and to boost the country's economy as a whole. One such provision is summarized here. The paper industry was procuring bamboo at a price of 1 Indian Rupee (INR) per ton during the 1950s, whereas the prevailing market price was over INR 2,000 per ton. The state subsidy induced "profitability of forest-based industries" and resulted in the "explosive growth in industrial capacity, and a non-sustainable use of forest stocks" (Gadgil & Guha 1992). This in turn had an adverse effect on forest-dependent communities. It is needless to say that such incentives also led to the further degradation of forests[6].

Such circumstances in the past led to several people's movements in protest against state policy. In one case during the 1970s and 1980s, local people protested against the logging of trees for industrial use. In what became known as the *Chipko* movement (*Chipko* meaning 'embrace'), villagers hugged the trees, interposing their bodies between the trees and the contractors' axes, to prevent them from being cut. This movement began in the Himalayan state of Uttaranchal in 1973, later spreading in an organized manner to other states in India. The people's movement achieved a major victory in 1980, when the government of Uttar Pradesh placed a 15-year ban on tree felling in Himalayan forests. This movement against state policy was well highlighted by the media and led to the increasingly conservation-oriented management and utilization of forests. In another case, local people protested against the replacement of native *Sal* (*Shorea robusta*) forests by Teak (*Tectona grandis*) plantations by the Forest Development Corporation in the Singhbhum District of Bihar state in 1977 (CSE 1982). This movement, termed 'tree war', met with stiff resistance from the state administration (for details see CSE 1982).

Misdirected policies to curb deforestation in India on the other hand led to the introduction of laws regulating the felling and marketing of trees from both public and private lands. This had the opposite effect as farmers reduced the number of trees they planted on private lands fearing that they would not be able to sell the timber (Kerr 1997). Nonetheless, demand for wood remained strong and prices for timber high. Therefore pressure on government forests, with relatively open access, increased to meet the demand. As a result, India's forests suffered further depletion. Singh (1994) defines three reasons for deforestation and the degradation of forests in India : "defective forest policy, faulty implementation of policy, and the poverty of the people".

To summarise, it could be said that, despite attempts to protect the forests, the state issued misdirected forest policies that failed to account for the fact that poor people have historically depended on forests for their needs and have few alternatives. According to Poffenberger (1995), in India "national resource management policy and development planning is based solely on an analysis of existing conditions and future need projections" without considering the "well grounded un-

[6] Subsidies for the wood-based industries have recently been removed.

derstanding of the history of environmental use patterns and the social, economic and political forces that shape them". In short, stakeholders, village communities/forest users and the Forest Department/forest owners were each respectively dealing with forests in isolation and from a different perspective. This resulted in implementation of forest policy initiatives as a means to overcome the problem, perhaps without analyzing the relationship between cause and effect. The outcome of such circumstances led to an increasingly indifferent attitude amongst local people towards the forests and the Forest Department, thus bringing about a shift in traditional symbiotic relationships between the users and the forest resource.

Thus it is true that people living in and around forests were responsible for the degradation of forests. Specifically, it was not possible for the FD, even armed with strict forest protection laws, to safeguard a large component of the forests from the large number of local users, given the small total number of forestry personnel throughout the country. According to Bahuguna (2001), there are 200,000 villages in India on the fringes of forests with a total population of 350 million people. The inference is that the State can effectively protect forests in India only if people's participation in forest management is solicited. Conversely, the village communities as forest users should also shoulder the responsibility for protection and management of their forests along with the FD. Under such an arrangement the local community could harvest various forest products from their forest in a sustainable manner and with a sense of ownership. Ideally, this forest management model should have been in place long before, bearing in mind the continued significance of forests in the village economy. However, as the country emerged as an independent nation, it was perhaps the government's pre-occupation with a development model focusing on agriculture and industry, which meant that such a forest management perspective was overlooked.

2.2 The Arabari experiments in JFM

The relevance of a 'give and take' principle between the FD and the community surfaced in the early 1970s. A group of FD personnel realized the importance of peoples' participation in regeneration of degraded *Sal* (*Shorea robusta*) forests in Arabari Range of Midnapur district in the state of West Bengal. This forest rejuvenation strategy was started as an experiment and later on replicated on a large scale first in this state followed by its adoption in different parts of country. The West Bengal Forest Department issued the first government order in 1989 to involve village communities in forest protection with provision to give the people 25 per cent of the revenue earned on timber harvested from the protected forest. This successful experiment led to the development of a new forest management strategy known as 'Joint Forest Management' (JFM). The village communities involved in the management of government forests in their vicinity under the JFM became known as forest protection committees. This is the first recorded case of 'co-management' of forests by FD and village communities in India (Yadav *et al.* 1998).

It is important to note that the forest protection committees formed in Arabari have emerged out of a persistent conflict between people and the government for control over forest resources as in the case of *Van Panchayats* in the state of Uttaranchal (discussed in Section 1.2).

Another successful experiment, which began in 1975 in Sukhomajri, a village in the state of Haryana, also helped in the conceptualization of participatory forest management. This experiment was initiated as an integrated watershed development programme by the Central Soil & Water Conservation Research & Training Institute (CSWCRTI), Research Centre, Chandigarh. The emphasis was on rainwater harvesting to enhance irrigation of cultivated land in Sukhomajri, which faced a severe soil erosion problem. Forestry became an integral part of the experiment, as the various tree species were planted to protect the watershed, along with the building of water-harvesting structures for harnessing rainwater. An unwritten agreement between the CSWCRTI team and villagers was developed for protecting the catchment of the water-harvesting structures from grazing and illicit cutting in the area (Samra *et al.* 2002). This was achieved by instituting a 'Water Users' Association' subsequently renamed as 'Hill Resource Management Society' (HRMS). The entire management of this project was handed over to HRMS, which functioned on the principles of participation. Presently, the 55 HRMSs in Haryana are an integral part of the JFM programme in this state (for details see http : // www.teriin.org/case/jfm.htm). In addition, built upon this successful participatory model, watershed management is now an integral part of the ongoing JFM programme in the country under the ambit of micro-level planning.

At present, there are 63,618 forest protection committees (joint forest management committees) in India spread over 27 states managing about 14.09 million hectares of forest[7]. This means that 22 per cent of the total forest cover of 63.73 million hectares in India is being managed under JFM. There are also a number of tree growers' cooperatives (for details see Section 2.4) and numerous self-initiated forest protection groups (SIFPGs) managing forests in India on the principle of participatory forest management. Thousands of SIFPGs, established by village communities with a "strong economic dependence on forests and where often a tradition of community resource management is still

[7] A state-wise break down of the forest protection committees in India is available at http : //www.rupfor.org/jfm—india.htm, the website of Resource Unit for Participatory Forestry, Winrock International India.

surviving", in the states of Orissa, Bihar, Gujarat, Rajasthan, Karnataka, Madhya Pradesh and Andhra Pradesh, are protecting large areas of state forests (Sarin 1998). According to Sarin (1998), SIFPGs came up "parallel to, and often preceding state initiatives" in implementation of JFM in the country.

There is no doubt that the Arabari experiment of participatory forest management, which was later implemented in the entire country, was a success. However, the rise of the JFM concept in India cannot be viewed only in the light of the success of the Arabari experiment ; the significance of the communities (SIFPGs) that have been managing their forests on their own for a number of years must not be overlooked. Neither should the rise of JFM be viewed as the outcome of a sudden change in mind-set on the part of FD personnel, once known for their autocratic management style. The factors leading to the evolution of participatory forest management are further discussed in the following two sections.

2.3 Failure to promote social forestry

To begin with, one of the first and foremost initiatives to enhance forest cover at a time when forests were declining and being degrading in the country was made by the National Commission on Agriculture (NCA) in 1976. The NCA was set up in 1970 by the government of India to examine comprehensively the progress of agriculture including forestry and to make recommendations for its improvement and modernization. In the case of forestry, the NCA investigated and reported that farm forestry should be accepted as an important factor affecting agricultural progress and as a source of raw material for industry (Government of India 1976).

Subsequently, the government of India launched a 'social forestry' programme, including 'farm forestry' on private lands and established 'community self-help woodlots' on community lands on a large scale during the 1970s and 1980s to reduce pressure on the government owned forests and also to incorporate people in the afforestation programme. However, according to Yadav *et al.* (1998), social forestry programmes were not successful, as they did not provide sufficient benefit to the local communities. The emphasis of this programme was more on farm forestry than establishment of community woodlots, where community woodlots are aimed at meeting the requirements of rural communities. For example, whilst the World Bank assisted social forestry programme in Uttar Pradesh overshot its farm forestry targets by 3,430 per cent, establishment of community self-help woodlots achieved only 11 per cent of the target (CSE 1985). By and large the State failed to involve people in the social forestry programme (Ballabh 1996).

These circumstances also led the State to think of changing its non-participatory approach to forest management to a more participatory one, increasingly involving local people. As such, the social forestry programme provided an opportunity for FD personnel to enter dialogue with village communities, so laying the foundations for JFM in India. There were also sound economic reasons for the initiation of participatory forest management in India. As the emphasis shifted away from imposing punitive measures as a component of the State's prerogative over forest issues, costs borne of monitoring and enforcement were reduced and the role of state Forest Departments in excluding people from forests was eased (Ballabh *et al.* 2002). These are some of the reasons (amongst others) cited for the initiation of participatory forest management by the State.

2.4 Facilitative role of NGOs

While discussing the development of participatory forest management initiatives, it is important to make reference to the active involvement of non-governmental organizations (NGOs) in promoting participatory forest management at the grassroots level. In most cases, NGOs are facilitating the village communities as well as the FD in the formation of JFM Committees. In many cases, NGOs and tree growers' cooperatives have developed their own participatory forest management models for JFM based on the policy directives of the government.

For example, the Foundation for Ecological Security (until February 2001 known as the National Tree Growers' Co-operative Federation Limited, NTGCF) is involved in organizing tree growers' cooperative societies at the village level to rehabilitate degraded village commons across seven states in India. Since its formation in 1988, the Foundation for Ecological Security (FES) has played a very active role in establishing and nurturing tree growers' cooperatives. The objective of a tree growers' cooperative is to motivate people to grow trees and grasses of suitable species on their own marginal agricultural lands and degraded village common lands to meet the local needs for forest produce. In addition, FES is also supporting self-initiated forest protection groups (SIFPGs). By the end of the year 2001, FES had organized tree growers' cooperatives and supported village institutions/SIFPGs in 866 villages and had afforested 13,348 hectares of degraded village common lands. For details on the functioning of tree growers' co-operatives, see Balooni & Ballabh (2000) and Balooni & Singh (2001).

During the inception of participatory forest management in India, the FD was skeptical about the involvement of NGOs. NGOs faced non-cooperation from FD for assisting village communities in undertaking community forestry programmes (Arul 1998 ; Balooni 1998 ; Saxena 1996 ; Saxena 2000). The conflicts between FD and NGOs suggested the State's reluctance to relinquish power. Similar conflicts in other countries involved in implementing community forestry programmes have also been cited (Desloges & Gauthier 1997 ; Hobley 1996 ; MacGean 1991).

Over the last decade, however, the state of affairs has

changed in favour of NGOs, which may be mainly attributed to the 'change in mind set' of FD personnel towards forest management. Now, substantial rural developmental funds earmarked by the Government of India are routed through NGOs for the participatory forest management programmes. Besides, pressure from external aid agencies on the FD to involve NGOs in JFM programmes and to restructure the FD accordingly, as a condition for aid in India, has also resulted in overcoming the problem between NGOs and the FD (Sundar 2000). However, there is also a contrary view. According to Sarin (1998), JFM has gone through three phases since the late 1980s. The first phase was "led primarily by idealistic and democratic NGOs and a few liberal officers". In the second phase, "NGOs learnt from practical experience and exposure to ground realities". The present third phase is "dominated by donor funding with forest departments becoming the major implementors", whereas "NGO and community efforts ... have been pushed to the sidelines". Nevertheless, NGOs remain a major stakeholder in forest policy formulation in the country as revealed in the subsequent discussion.

3 Policy Trends in Joint Forest Management

3.1 Policy directives

This section begins with a discussion of the new National Forest Policy of 1988, which is the first forest policy to emphasize the role of people's participation in forest protection and management. This policy had been conceptualized in the wake of the success of the participatory forest management scheme in the country, albeit on a small and localized scale. This section draws from the government of India's orders and guidelines on JFM. The text of the government of India's resolutions, circulars and orders concerning participatory forest management referred to in this paper, are given in Annexes 1 to 7 in chronological order at the end of this paper (also available at http : //www.rupfor.org/jfm—india.htm and http : //www.rupfor.org/jfm—moef.htm).

3.1.1 Creating a people's movement

National Forest Policy, 1988, the second forest policy after India's independence, has in the last decade changed the face of the Indian Forestry sector (Resolution No. 3A/86-FP, dated 7th December 1988, Ministry of Environment and Forests, Government of India ; Annex 1). It is both conservation- and production-oriented. The basic objective of this policy is the maintenance of environmental stability through preservation of forests as a natural heritage. It also places emphasis on increasing substantially the forest/tree cover and the productivity of forests in the country to meet national needs. However, the distinctive feature of this new policy was mention of "creating a massive people's movement with the involvement of women, for achieving the above-mentioned objectives and to minimize pressure on existing forests". This is a complete departure from the previous National Forest Policy of 1952 as it envisages people's participation in the development and protection of forests. The National Forest Policy is a harbinger of 'management change', *i.e.* from government-managed to people-managed forests. As a follow up to the National Forest Policy of 1988, the government of India has issued orders and guidelines on JFM from time to time in the last ten years (as summarized in the following sections). This reflects the government's resolve succinctly outlined in the National Forest Policy to create a massive people's movement and encourage participation in the management of forests.

It is also important to mention here that central control over forest lands was strengthened by transferring forestry from the State List to the Concurrent List by the 42nd Amendment of the Indian Constitution in 1976. This was followed by the enactment of the Forest (Conservation) Act in 1980, which made the central government's approval mandatory for conversion of forest land for non-forest purposes, such as "cultivation of tea, coffee, spices, rubber, palms, oil-bearing plants, horticultural crops or medicinal plants" and for "any purpose other than reafforestation". The Forest (Conservation) Act, 1980 has to some extent helped in checking the conversion of forest land for non-forest uses. This is reflected by the fact that the rate of conversion of forest land for non-forest uses fell to around 22,665 hectares per annum during 1981–1998 (ICFRE 2000), as compared to 143,000 hectares per annum before 1980 (*Press Information Bureau,* http : //pib.myiris.com/refer/article.php3?fl=B3562&sr=8). In some ways, this Act has helped in facilitating the implementation of the JFM programme on forest land, as generally encroachment takes place on land otherwise suitable for JFM management typically at the periphery of existing forests (also see Section 3.2.3).

3.1.2 First circular on JFM

Efforts to encourage adoption of participatory forest management in the forests of India were underway even before the adoption of the National Forest Policy of 1988 as illustrated by the case of the Arabari experiment in West Bengal (discussed in Section 2.2). However, the movement gained momentum and was formally institutionalized as a participatory forest management programme once people's participation had been incorporated into the new forest policy. In this context, the first policy directive was a JFM Circular issued by the central government for the *Involvement of Village Communities and Voluntary Agencies in Regeneration of Degraded Forests* (Circular No. 6.2 1/89-F.P., dated 1st June 1990, Ministry of Environment and Forests, Government of India ; Annex 2). This Circular provided the background and the methods required for the implementation of JFM by the state FDs with the involvement of village communities. It also envisaged the participation of voluntary organizations/non-governmental organizations with a proven track record in JFM to

facilitate participation by village communities in development and protection of forests with an emphasis on regeneration of degraded forests. Furthermore, the Circular highlighted management concerns such as ownership or lease rights over forests, membership of village forest committees (also known as forest protection committees or joint forest management committees), usufruct rights of beneficiaries, and management and supervision of afforestation and protection activities. This Circular also suggested other do's and don't's for the village forest committees and voluntary agencies/NGOs and implications thereof, though only in a broad sense.

Consequently, state governments passed their own resolutions on JFM. These resolutions varied from state to state depending on the socio-economic and political scenario as well as cultural characteristics of each state. Nevertheless, the basic principle of community/people's participation as envisaged in the National Forest Policy of 1988 and the JFM Circular underlie all these state resolutions. Presently, 22 state governments have come up with their own JFM orders for implementing the JFM programme. The first JFM Circular by the government of India has been followed by other government orders and notifications from time and time, as and when required to support its policy to facilitate JFM throughout the country. Accordingly, many states have come up with revised JFM orders. For example, the state of Orissa's latest JFM resolution is the fifth since the first order was issued in 1988. Some of these orders and notifications are summarized below in chronological order.

Here it is important to highlight that the 73rd Amendment of the Indian Constitution in 1992 has also facilitated the implementation of JFM in the country. This amendment empowers village *panchayat* (village councils) to undertake village level planning for all developmental activities including those relating to forestry, irrigation and agriculture. This empowerment of the people at the grassroots level is popularly known as *Panchayati Raj*.

3.1.3 Establishment of a JFM Monitoring Cell

Realizing the importance of the ongoing JFM programme for the effective management of forests in the country, the Ministry of Environment and Forests created a 'JFM Monitoring Cell' within the Ministry in 1998. This Cell was created with the objective of monitoring the impact of JFM being carried out by state governments for the improvement and protection of forests (Office Order No. 1-13/97-FF, dated 19th August 1998, Ministry of Environment and Forests, Government of India ; Annex 3). This order also replaced the erstwhile 'Forest Fire Division' with a 'Forest Protection Division'. This new division covers all the aspects of forest protection in India and also encompasses the 'JFM Monitoring Cell'.

3.1.4 Expansion of JFM to non-forest areas

Furthermore, the government constituted a 'Standing Committee on JFM' in 1998 to review the implementation of JFM programmes as well as existing JFM arrangements in the country (Notification No. 1-13/97 -FPD, dated 6th November 1998, Ministry of Environment and Forests, Government of India ; Annex 4). This committee comprised eminent scientists, senior Indian Forest Service Officers, and officials of funding agencies and other organizations engaged in JFM activities. The main objective of the committee was to advise the government on the operational aspects of JFM including institutional arrangements. The committee was also expected to discuss the strategies to expand JFM in non-forest areas.

In India, besides the forest land owned and managed by the State Forest Departments, there is a large area (around 76 million hectares) of non-agricultural and non-forest land, such as barren and unculturable wastelands, culturable wastelands, permanent pastures and other grazing lands. Such lands are owned *de jure* by the Revenue Department and other government departments, though in some cases they are *de facto* 'common property resources'. Mostly such lands are 'open access resources'. Though these uncultivated lands are highly degraded having suffered 'the tragedy of commons', they nonetheless hold the potential for the expansion of JFM in the country.

3.1.5 Sharing of experience

Given that each state in India has passed its own resolution on JFM to fit local socioeconomic, political and geographical conditions, it is vital that experiences of its implementation - both successes and failures - be shared with one another. Thus it becomes essential to find ways and means for the sharing of experiences between various states. With this in view, the government established a committee comprising of senior forest officers from six states and a member of the JFM Cell in November 1999 (Notification No. 22-8/98-FPD, dated 12th November 1999, Ministry of Environment and Forests, Government of India ; Annex 5). This committee was also given the responsibility of preparing formats for monitoring JFM programmes and identifying items of the JFM programme for systematic funding, with due regard to long-term sustainability.

3.1.6 Creating a JFM Network

In order to give added impetus to JFM in India, the government instituted a 'JFM Network' at the national level in February 2000 (Notification No. 22-8/98-FPD, dated 11th February 2000, Forest Protection Division, Ministry of Environment and Forests, Government of India ; Annex 6). The JFM Network "acts as a regular mechanism for consultation between various agencies engaged in JFM work" and also "obtains constant feed back from various stakeholders on the JFM programme for proper policy formulation and suitable directions to states". This Network has representatives from the Ministry of Environment and Forests, NGOs, funding

agencies such as the World Bank, the Ford Foundation, the World Wide Fund for Nature, the Department for International Development of the United Kingdom, and the Overseas Economic Cooperation Fund of Japan. There are also representatives from Indian organizations - including the Society for Promotion of Wastelands Development, Tata Energy Research Institute and the Indian Institute of Forest Management - involved in various aspects of training and research.

Given the mammoth size of the ongoing JFM programme on a national level, promoting feedback and exchange and including the views and reactions of different stakeholders through the establishment of a 'JFM Network', is considered an appropriate step.

3.1.7 Issuing guidelines for strengthening JFM

The government has developed guidelines for strengthening the JFM programme based on past experience (Notification No. 22-8/2000-JFM (FPD), dated 21st February 2000, Ministry of Environment and Forests, Government of India ; Annex 7). Issued almost a decade after the first governmental notification of JFM in June 1990, these guidelines represent the latest JFM policy directives, and present a structured and broad framework for implementation of JFM in India.

The guidelines set forth a number of measures for strengthening JFM in India, including increased legal support for JFM Committees ; the promotion of women's participation in JFM programmes ; the extension of JFM into good forest areas ; the preparation of microplans in JFM areas ; conflict resolution ; and the official recognition of self-initiated forest protection groups (SIFPGs). The guidelines also highlight the need to plough back a minimum of 25 per cent of the revenue earned on products harvested by village communities into meeting the conservation and development needs of the forests. These suggestions have been developed on the basis of the successes and failures experienced in the implementation of JFM in various parts of the country. Some of the measures (such as the registration of all JFM Committees under the Societies Registration Act, 1860 to provide legal back up) seek to legally streamline the JFM programme across the country. Formal recognition of SIFPGs is also seen as a necessity, since, in the absence of government support, their authority is often challenged by "neighboring villages, migratory herders, commercial interests as well as FD staff" (Sarin 1998).

Guidelines to enhance the participation of women in the JFM programme and the development of a sound mechanism for conflict resolution together indicate that there remain challenges to achieving perfection of JFM in India. These policy issues and challenges are discussed in detail in Section 3.2, 'Policy issues and challenges ahead'.

3.1.8 JFM in afforestation schemes

Given the government's emphasis on participatory forest management, investments in afforestation under the Five Year Plans are being revamped in order to factor in "people's participation in project formulation and implementation". After the independence of India in 1947, the government launched a series of Five Year Plans with targeted budgetary allocations for the development of various sectors. The first Five Year Plan was implemented during 1951-1956. At present, the tenth Five Year Plan (2002-2007) is underway.

In a recent development, the Ministry of Environment and Forests has issued fresh operational guidelines for the formulation of a National Afforestation Programme under the tenth Five Year Plan. These guidelines seek to encourage a participatory approach to the development of forests under government sponsored afforestation schemes. Afforestation schemes operational during the ninth plan have been merged under the new National Afforestation Programme so as to "avoid multiplicity of schemes with similar objectives" and to ensure "uniformity in funding patterns and implementation mechanisms".

One of the major features of these guidelines is that all the new centrally sponsored afforestation schemes will be implemented via a two-tier system consisting of Forest Development Agencies (FDAs) and JFM Committees to allow greater participation of the community in planning and implementation. FDAs are new institutional organizations registered under the Societies Registration Act and operational at the territorial/wildlife forest division level ; as of July 2002, 165 FDAs had been established in 21 states in India (*Times of India* quoted in Inform (2002)). Other than JFM Committees, village institutions already in existence will act as the implementing agency at the grassroots level to cater for village needs. FDAs will work in tandem with JFM Committees under the terms of a Memorandum of Understanding. On the one hand, FDAs strengthen the role of existing JFM Committees, and on the other, they create new JFM Committees. In short, the purpose of the National Afforestation Programme is to make JFM a central and integral part of all the afforestation projects in the country.

3.2 Policy issues and challenges ahead

The emergence of new policy directives from time to time as summarized in the preceding section also implies that JFM is not bereft of problems. There are a number of policy issues and challenges which affect either the sustainability of existing JFM programmes or decelerate the pace of their implementation. The inception of the JFM programme in India was a daunting task for the FD, NGOs and other stakeholders. The state governments issued their own JFM resolutions to set the guidelines for their implementation. However, it was not possible to visualize at the outset the range of problems that would be confronted in each situation and at the different stages of JFM implementation.

In India, more than 60,000 JFM Committees have been established. This figures, however, does not give a good

impression of the success rate and, more importantly, the sustainability of these community-based organizations. These remain the major 'teething' problems for JFM programmes in India. The government has admitted that measures to sustain programmes beyond the project period have not yet been conceptualized (Government of India 2001 a). For example, out of the total 362 tree growers' cooperatives organized by the NTGCF/FES during 1988–1996, only 79 per cent were actually functional, the rest being either non-functional or defunct (NTGCF 1996).

So what are the factors that directly or indirectly hamper the progress and sustainability of JFM programmes? The following sections summarize important policy issues and challenges based on a review of the literature.

3.2.1 Equity in participation

'Equity in participation' in a JFM context refers to the participation of all stakeholders/users with an emphasis on weaker/under-privileged societal elements (such as the landless labour force, marginal and small scale farmers, scheduled castes, tribal groups and women ; as defined in the National Forest Policy of 1988). The government is specifically targeting these under-privileged sections of society inhabiting forests and adjoining areas under the JFM programmes and other afforestation schemes. As landless labourers and marginal and small scale farmers in rural India depend mostly on common property resources for their fuel supplies and fodder, they have a personal interest in the regeneration of degraded forests under the JFM programme. Furthermore, forest products from commons are an important source of employment and income for the rural poor, especially where other opportunities are non-existent (Jodha 1997).

Given this context, one of the objectives of the JFM programme is to create employment for under-privileged sections of society with around 60 per cent of the expenditure incurred in JFM being paid as wages. A substantial proportion of the financial allocation of the various rural developmental programmes in India - including, for example, *Sampoorna Gramin Rojgar Yojana*[8], the Drought Prone Area Programme and the Desert Development Programme - is kept aside for afforestation schemes. Recently, the government has proposed to link the Greening India Programme (for details see Section 3.2.4) with the 'Food for Work' scheme to enhance forest cover ; the food grains will form 50 per cent of the wages earned by workers in drought prone areas (Government of India 2001a). This programme is expected to ensure food accessibility for 100 million people and generate employment opportunities, mainly for landless labourers and women.

It is important to emphasize here that it is primarily the weaker sections of society that are involved in the plantation and protection activities in JFM. However, to what extent the weaker classes are involved in determining forest management priorities is questionable, since historically they have been kept at a distance by the more powerful elements in village politics. Here, the focus is on women, as in most cases they are the collectors and users of forest products. Moreover, women spend a great deal of time in the forests collecting forest produce and typically know more about the forest resource than men. Nonetheless, political control in forest management remains vested in men.

The government resolutions on JFM in India advocate active participation by women in the decision-making process and in determining forest management priorities. The National Forest Policy of 1988 specifically refers to the creation of "a massive people's movement with the involvement of women...." - the only non-bracketed mention of women in the document (Locke 1999). However, this policy objective is far from being accomplished, despite the fact that JFM orders issued by some state governments have made provision for the representation of women in the General Body and the Executive Committee of the JFM Committee. According to Sarin (1998), these JFM orders specify only a few institutional mechanisms for ensuring the active participation of women. Furthermore, "formal provisions or policy statements regarding women's roles or entitlements are extremely narrowly conceived within JFM at the national, state and even project level" (Locke 1999). For example, in the state of West Bengal, a woman automatically becomes a member of JFM Committee by virtue of her husband being a member, but even then the husband is regarded as the primary member (Agarwal 2001).

Agarwal (2001) has classified the participation of women in JFM into five categories : nominal participation, passive participation, consultative participation, activity-specific participation and active and interactive participation. Thus, for example, whilst women may be excluded from decision-making, they may be drawn into 'activity-specific participation', especially forest protection. In addition, there are few cases of women's participation in all-women committees in India's hill areas (Agarwal 1997), one exception being the Parwara *Van Panchayat* in the state of Uttaranchal. Here, besides a paid guard that protects the village forest, there are also three *Mahila Van Suraksha Samitis* (MVSSs) - Woman Forest Protection Committees - involved in the protection of the village forest (Ballabh *et al.* 2002). The forest has been divided into three parts, with each MVSS taking care of one part. The MVSSs patrol the forest in groups of five or six members every month to check for damage incurred and the extent of encroachment. The members of all the three MVSSs meet on the twelfth day of every month to discuss their findings and take decisions for future action. Only one woman from a house-

[8] This programme aims to provide employment for at least one person in families living below the poverty line in rural areas for 50 to 100 days in the year.

hold can become a member of MVSS. However, all women can participate in MVSS activities.

Women's participation in JFM has been high on the government's agenda for more than 10 years but still remains "incompletely addressed" (Hobley 1996). Similarly, a fundamental problem exists with women's representation in other rural developmental activities under the ambit of village *panchayat*. The government has recently issued new JFM Guidelines for ensuring meaningful participation of women in JFM. According to these guidelines, "at least 50 per cent of members of the JFM general body should be women.... and at least 33 per cent of the membership in the JFM Executive Committee/Management Committee should be filled by women members... One of the posts of office bearer, *i.e.* President/Vice-President/Secretary, should be filled by a woman member of the Committee". A recent study undertaken by the government suggested that the FD should recruit female staff at all levels and also increase the number of women extension officers to reach out to women more comprehensively. Nevertheless, it is difficult to speculate when the much needed and veritable participation of women in JFM in India will be ensured.

3.2.2 Equity in benefit sharing

Equity in the sharing of benefits derived from protected forests managed under the JFM programme is as important as equity in the participation in the JFM programme itself. This is one of the major challenges affecting the sustainability of JFM in India. In the past, prior to implementation of the JFM programme, village communities had access to forest products under different rights and regimes provided under various settlements. In most cases, village communities accessed forest products freely as an open access resource, which eventuality led to the degradation of forests in India. However, with the implementation of JFM, community access to forest products was restricted as a pre-requisite for the rejuvenation of degraded forests. Village communities waited patiently to harvest forest products from the protected areas ; clearly, 'free riding is inevitable' is not always the case. After more than a decade since the introduction of JFM in India, however, the stalled distribution of benefits from plantations has begun to spark signs of restiveness amongst users (Balooni & Ballabh 2000 ; Hobley 1996 ; Saxena 2000). Problems regarding benefit sharing have also been confronted by participatory forest management schemes in neighboring countries, such as Nepal (Shrestha 1996) and Sri Lanka (MacKenzie 1998). In the case of India, two sets of problems can be discerned : those relating to the distribution of benefits amongst the users themselves, and those relating to the distribution of benefits between users/village communities and the FD.

Saxena (1988) and Campbell (1992) expressed apprehension at the lack of procedure for allocating benefits at the time when participatory forest programmes were first established. That is, the current problems regarding benefit sharing constitute a fundamental policy failure, which, in explicit terms, tilts the flow of benefits derived from rehabilitated forests in favour of the FD, despite objections from village communities. Moreover, the arrangement for benefit sharing between village communities and the FD varies from state to state. With the passage of time, different states have passed their own resolutions to resolve this issue. For example, in Gujarat, the distribution of benefits derived from community plantations on government forest land between the FD and village communities was in the ratio of 3 : 1 before the state government issued a JFM resolution in March 1991. Subsequently, a second JFM resolution was issued in June 1994, enhancing the share of benefits from rehabilitated forests to village communities from 25 per cent to 50 per cent.

In overcoming this problem, it is important for policy makers to examine the history of past settlements during the colonial rule, wherein forest users were granted certain rights (Hobley 1996). These rights should not be abruptly extinguished by imposing new benefit sharing arrangements under participatory forest management, as that will determine the response of local people to JFM. The policies have also to ensure that poor families and women get equal entitlements in benefit sharing.

3.2.3 Acquisition of degraded lands

There are several problems faced in the acquisition of village common lands for implementation of JFM at the grassroots level. In particular, the bureaucratic hassle involved in acquisition of such land - which may last for than a year - presents a major obstacle (Balooni 1998 ; Raju 1997). Moreover, in the case of degraded non-forest lands handed over to village communities on a lease basis (for example, to a tree growers' cooperative to rehabilitate degraded village common land owned *de jure* by the revenue department), the terms and conditions as well as the period of lease vary significantly from state to state (Mishra 1992). Even the NGOs involved in implementing the JFM programmes on degraded forest areas in the vicinity of a given village, may face bureaucratic hassle from the FD in acquiring such land (Raju 1997).

Acquisition of degraded lands classed as a common property resource is further aggravated by the encroachment of local people onto such land (Balooni & Ballabh 2000 ; Jodha 1997 ; Iyengar 1989). Eviction following illegal encroachment onto forest land is typically contested by individuals and organizations in India on the grounds that many of these encroachments had taken place in the past and, in addition, that many of the encroachers are tribal people. Hence, the efforts of the national government in evicting on the basis of illegal encroachment have not been very successful. For example, even after the enactment of the Forest (Conservation) Act, 1980, 183,000 hectares of forest encroachments were regularized in the state of Madhya Pradesh in 1990

(ICFRE, 2000). The government of India has recently advised all states to "rehabilitate ineligible encroachers on non-forest land as per their policies". It has further counseled the states to "consider *in situ* economic rehabilitation by involving these ineligible encroachers in forestry activities through Joint Forest Management" ; for details see Government of India (2002).

The lack of demarcation and confusion over the boundaries of degraded lands suitable for JFM activities has also affected the programme (Balooni & Ballabh 2000). NGOs, the FD and the revenue department generally prefer to allocate resources according to the administrative boundaries determined in settlement plans concluded during the 19th century. However, since this time, the ground realities of use and management of resources have changed quite considerably and as such these changes need to be incorporated for proper management of plantation areas. In addition, a negotiated settlement between different villages and between the hamlets within a single village needs to be arrived at for effective implementation of JFM (Balooni & Ballabh 2000).

3.2.4 Institutional finance

The government of India has recently introduced the Greening India Programme, which proposes to reforest 43 million hectares of degraded forest and non-forest lands under a watershed approach within a ten year timeframe. This includes regeneration of 15 million hectares of degraded forests under JFM. The government has proposed to set up a Green India Authority and a Green India Fund to undertake this programme. The implementation of the programme requires INR 48,000 million annually, compared to the INR 16,150 million currently available through the government's budgetary resources (Government of India 2001a). Given the limitation of budgetary resources for forestry activities, the government will have to seek funding from other sources. One such source is 'institutional finance' - a source which is yet to be tapped by forestry activities in India.

The National Bank for Agricultural and Rural Development (NABARD), an apex development bank in India, supports and promotes agriculture and rural development including tree plantations on private and community lands. NABARD provides refinance facilities to certain categories of financial institutions in respect of the loans advanced by them to ultimate beneficiaries - including individuals, forest-based industries, state forest development corporations and NGOs - for undertaking tree plantations and other development activities. However, since the inception of NABARD in 1982, its contribution to tree plantation activities has been paltry (Balooni & Singh 2003). Moreover, in recent years the amount disbursed by financial institutions to afforestation programmes, mostly for farm forestry projects, has declined considerably (Government of India 2001a). In 1998–1999, the figure was INR 90 million, as compared to INR 290.5 million in 1990–91.

Furthermore, there is almost a negligible flow of institutional credit for implementing ongoing JFM programmes. Most of the funds for JFM come from government sources and donor agencies. Mostly these funds are made available for a relatively short period, typically between three to five years for a particular project area. In many cases, the discontinuity of such funds affects the sustainability of the village level institutions involved in the JFM programmes. In such cases, financial institutions can provide credit to village communities to continue the JFM activities. This is one area where institutional finance can play an important role. The government already has defined an expanded role for NABARD in implementing JFM under the Green India Programme.

Given the poor performance of NABARD in disbursing institutional credit for tree plantation programmes in the past, it would be a challenging task to now increase the flow of institutional credit for JFM throughout the country. A number of factors have been identified as major constraints in financing forestry programmes in India. They include time-consuming and complicated procedures for acquiring degraded land owned by the government, delays in the sanctioning and disbursement of bank credit, low (non-remunerative) prices for tree products, and flawed public policies and programmes (Balooni & Singh 2003). The Food and Agriculture Organization (FAO) of the United Nations and NABARD undertook a study in the state of Andhra Pradesh to assess the technical feasibility and financial viability of channeling institutional credit to JFM projects (Haque *et al.* 1998). The study revealed that the projects were all financially viable ; NABARD has already agreed to fund JFM programmes in Andhra Pradesh (Government of India 2001 a). However, a serious limitation of such joint ventures involving several stakeholders is the lack of effective coordination among them, which makes the task of replication of success stories daunting (Haque *et al.* 1998). Thus, inter-institutional cooperation is a prerequisite for the future success of this strategy. Unless these constraints are overcome, the NABARD cannot by itself play any effective role in speeding up the funding of JFM in the country.

3.2.5 Mismatch between forest management objectives and silvicultural practices

From a silvicultural point of view, a recent study on JFM sponsored by the government revealed significant mismatch between the current forest management objectives and the silvicultural methods being employed (Government of India, undated). Forest management objectives are guided by a participatory management approach focusing on natural regeneration and improvement of the forest's productivity - with particular emphasis on non-wood forest products (NWFPs). However, silvicultural practices have remained unchanged over the past century, which is inappropriate given that, as already discussed, the Indian forestry sector was driven

by commercial motives during the colonial period, basing production on a selection of relatively few commercial species. Hence, a great deal of effort is required in the coming years to change silvicultural practices, particularly in view of plans to expand JFM activities to good forests.

3.2.6 Institutional impediments

With the wide acceptance of JFM in India, the need to overcome various institutional impediments, which result in high transaction costs, is being increasingly realized. Some of the institutional impediments confronted in the JFM programme in India have already been specified in Sections 3.2.1 to 3.2.5. Here an analysis of institutional impediments in a broader sense is presented.

In many states in India, the institutional elements of JFM function under the ambit of a plethora of resolutions, laws, policies and acts, which are often "conflicting, ambiguous, contradictory and lack legal validity" (Government of India, undated). That is, the JFM programme lacks legislative support even when it is based on administrative orders (Sarin 1998). For example, the FD is vested with the responsibility of resolving conflicts within JFM Committees, disbanding a badly functioning JFM Committee, canceling membership and nominating NGOs for membership (Government of India, undated). In such circumstances, the question arises, what is the explicit role of JFM Committees? The obvious answer is 'to protect the forest only'. The fact is that JFM activities presently derive their legal legitimacy from the resolutions issued by state governments. However, these resolutions do not have a statutory basis and therefore, are easily reversible (Hobley 1996). This creates uncertainty in the rights to tenure of the village communities involved in forest protection. Hence, for the continued success of JFM, village communities need to be provided with enough flexibility to build institutional arrangements that are sustainable.

Furthermore, there remains a lot of variation between the JFM resolutions issued by different states. Also, JFM Committees in different states vary in nomenclature, structure and composition, and whereas they are registered with FDs in some states, in others they are registered as societies and cooperatives. In addition, in some states there is no legal back up for the SIFPGs. The arrangements for benefit sharing between JFM Committees and village communities, and the terms and conditions of forest land leased to JFM Committees also varies from state to state. As such, there is a pressing need to unify policy in at least the more important aspects of JFM structure across the country in order to achieve better coordination among the states and for efficient monitoring and evaluation.

Marketing of forest products is often effected by institutional impediments. For example, in several states, provisions of the Forest Law impose restrictions on felling, transportation and sale of timber ; in Andhra Pradesh, the Forest Produce Transit Rules of 1970 regulate the transit of forest produce into, from or within any area in the state. Under the JFM programme too, the JFM Committee has to get permission to fell and transport timber, which is often a time consuming process. On the other hand, the poor infrastructure and the lackadaisical approach to marketing of forest produce results in non-remunerative prices for the products. Marketing of forest produce in India is either done by state agencies such as Forest Development Corporations, marketing federations such as the Tribal Marketing Federation of India, or through the alternative markets controlled by middlemen and intermediaries. In most cases, beneficiaries do not get a remunerative price.

Lack of appropriate marketing infrastructure for forest produce has always been a serious constraint in the Indian forestry sector, in contrast to the well-developed marketing infrastructure that exists for agricultural produce in the country. The JFM programme in India is emphasizing production of NWFPs as they provide a regular income for JFM Committees. For this system to function efficiently, however, it is necessary to make JFM Committees self-sufficient for their day-to-day operations, rather than depending on government and NGOs. It is important to note that the marketing of NWFPs varies between the states in India in terms of "market structure, marketing channels, price, scope for value added processing...depending on the nature of the products and their legal status...." (Government of India, undated). Given this context, the marketing strategies for NWFPs need to be radically revamped so as to fulfill the objectives of JFM. It would be a mistake for policy makers to watch and wait rather than to resolve this important issue, as in many states JFM is still in its infancy and marketing has not emerged as a serious constraint.

4 Conclusions

The policy directives issued by the government of India from time to time since the announcement of the National Forest Policy of 1988 indicate the existence of a 'learning curve' in the process of implementation of JFM in India. This means that with the passage of time, policy makers have realized the need for new policy measures for expanding JFM programmes together with the need for overcoming the constraints in their implementation.

Furthermore, the present analysis of forest policies on participatory forest management in India reveals the government of India's determination for the successful implementation and expansion of JFM throughout the country. Nonetheless, such a resolve is insufficient on its own without the collective effort of all stakeholders, encompassing governmental and non-governmental organizations. Here it is important to note that some visionary bureaucrats in India, in conjunction with strong political support, have played a positive role in

the policy formulation and implementation stages of the JFM programme.

Persistent review of the National Forest Policy of 1988 is evidence of maturity in the forest policy-making process in India. Policy directives for JFM have been developed on the principle of 'analysis for policy' and are based on thorough and continuous research of relevant subject matter. This is indicative of the role played by social scientists in the development of a participatory forest management model. Their efforts have allowed the programme to mature significantly by injecting a better understanding of the sociology of participatory forest management, in turn influencing the thinking of forestry professionals (Gilmour & Fisher 1998).

Development of any successful doctrine is likely to be beset with failures also. The analysis presented in this paper has revealed that the JFM programme in India currently confronts several teething problems inherited from the past. It is also facing the range of challenges that normally crop up when an institution begins to take root. A sound forest policy is necessary in order to overcome these issues and challenges. Ensuring equity in representation and participation of the marginalized classes (such as the poor and women), equitable benefit sharing between the Forest Department and village communities and within the communities themselves, are issues which, if not addressed now, could jeopardize the future progress of participatory forest management. Now the time has also come to streamline the plethora of forest policies, rules and regulations inherited from the colonial period as well as those formulated since independence, in view of JFM as a major forest management model. On the technical side, emphasis needs to be placed on the formulation of new and effective silvicultural practices to increase the productivity of forests managed by village communities for the enhanced harvest of NWFPs. These corrective measures will synchronize the practices with the basic philosophy and objectives of participatory forest management. To sum up, these issues and challenges to the JFM programme in India require in-depth study and analysis for their expeditious resolution.

The government also must not dilute its focus on farm forestry projects on private lands, as has been reported in a recent study (Government of India 2001 b). This is important for the development of the forestry sector in India, as JFM and farm forestry programmes are complementary to each other.

In conclusion, it seems reasonable to predict that all forests in India will eventually be managed under the principles of JFM, given the government's resolve to expand the programme to good forests, rather than keeping it confined to degraded forests only. The recent policy initiatives on participatory forest management by the government of India have set an example to be emulated by other countries in South Asia as well as other parts of the World.

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Annex 1

National Forest Policy, 1988

(Source : http : //www.rupfor.org/jfm—india.htm)

No. 3A/86-FP

Ministry of Environment and Forests

(Department of Environment, Forests & Wildlife)
Paryavaran Bhavan, CGO Complex
Lodi Road, New Delhi - 110 003
7th December 1988

RESOLUTION

National Forest Policy, 1988

1. PREAMBLE

1.1. In Resolution No. 13/52-F, dated the 12th May 1952, the Government of India via the erstwhile Ministry of Food and Agriculture enunciated a Forest Policy to be followed in the management of State Forests in the country. However, over the years, forests in the country have suffered serious depletion. This is attributable to relentless pressures arising from ever-increasing demand for fuelwood, fodder and timber ; inadequacy of protection measures ; conversion of forest lands to non-forest uses without ensuring compensatory afforestation and essential environmental safeguards ; and the tendency to look upon forests as a revenue-earning resource. The need to review the situation and to evolve, for the future, a new strategy of forest conservation has become imperative. Conservation includes preservation, maintenance, sustainable utilisation, restoration, and enhancement of the natural environment. It has thus become necessary to review and revise the National Forest Policy.

2. BASIC OBJECTIVES

2.1 The basic objectives that should govern the National Forest Policy are the following :

- Maintenance of environmental stability through preservation and, where necessary, restoration of the ecological balance that has been adversely disturbed by serious depletion of the forests of the country.
- Conserving the natural heritage of the country by preserving the remaining natural forests with the vast variety of flora and fauna, which represent the remarkable biological diversity and genetic resources of the country.
- Checking soil erosion and denudation in the catchment areas of rivers, lakes and reservoirs in the interest of soil and water conservation, for mitigating floods and droughts and for the retardation of siltation of reservoirs.
- Checking the extension of sand dunes in the desert areas of Rajasthan and along the coastal tracts.
- Increasing substantially the forest/tree cover in the country through massive afforestation and social forestry programmes, especially on all denuded, degraded and unproductive lands.
- Meeting the requirements of fuelwood, fodder, minor forest produce and small timber of the rural and tribal populations.
- Increasing the productivity of forests to meet essential national needs.
- Encouraging efficient utilisation of forest produce and maximising substitution of wood.
- Creating a massive people's movement with the involvement of women, for achieving these objectives and to minimise pressure on existing forests.

2.2 The principal aim of Forest Policy must be to ensure environmental stability and maintenance of ecological balance including atmospheric equilibrium which are vital for sustenance of all lifeforms, human, animal and plant. The derivation of direct economic benefit must be subordinated to this principal aim.

3. ESSENTIALS OF FOREST MANAGEMENT

3.1 Existing forests and forest lands should be fully protected and their productivity improved. Forest and vegetal cover should be increased rapidly on hill slopes, in catchment areas of rivers, lakes and reservoirs and ocean shores and on semi-arid, and desert tracts.

3.2 Diversion of good and productive agricultural lands to forestry should be discouraged in view of the need for increased food production.

3.3 For the conservation of total biological diversity, the network of national parks, sanctuaries, biosphere reserves and other protected areas should be strengthened and extended adequately.

3.4 Provision of sufficient fodder, fuel and pasture, especially in areas adjoining forest, is necessary in order to prevent depletion of forests beyond the sustainable limit. Since fuelwood continues to be the predominant source of energy in rural areas, the programme of afforestation should be intensified with special emphasis on augmenting fuelwood production to meet the requirement of the rural people.

3.5 Minor forest products provide sustenance to tribal populations and to other communities residing in and around forests. Such produce should be protected, improved and their production enhanced with due regard to generation of employment and income.

4. STRATEGY

4.1 Area under forest

The national goal should be to have a minimum of one-third of the total land area of the country under forest or tree cover. In the hills and in mountainous regions, the aim should be to maintain two-thirds of the area under such cover in order to prevent erosion and land degradation and to ensure the stability of the fragile eco-system.

4.2 Afforestation, Social Forestry & Farm Forestry

4.2.1 A massive need-based and timebound programme of afforestation and tree planting, with particular emphasis on fuelwood and fodder development, on all degraded and denuded lands in the country, whether forest or non-forest land, is a national imperative.

4.2.2 It is necessary to encourage the planting of trees alongside roads, railway lines, rivers and streams and canals, and on other unutilised lands under State/corporate, institutional or private ownership. Green belts should be raised in urban/industrial areas as well as in arid tracts. Such a programme will help to check erosion and desertification as well as improve the microclimate.

4.2.3 Village and community lands, including those on foreshores and the environs of reservoirs, not required for other productive uses, should be taken up for the development of tree crops and fodder resources. Technical assistance and other input necessary for initiating such programmes should be provided by the Government. The revenue generated through such programmes belongs to the panchayats where the land is vested in them ; in all other cases, such revenue should be shared with the local communities in order to provide an incentive for them. The vesting in individuals of certain ownership rights over trees, particularly in the weaker sections of society (such as landless labour, small and marginal farmers, scheduled castes, tribal groups and women), could be considered, subject to appropriate regulations ; beneficiaries would be entitled to usufruct and would in turn be responsible for their security and maintenance.

4.2.4 Land laws should be so modified wherever necessary so as to facilitate and motivate individuals and institutions to undertake tree-planting and grow fodder plants, grasses and legumes on their own land. Wherever possible, degraded lands should be made available for this purpose either on lease or on the basis of a tree-patta scheme. Such leasing of the land should be subject to the land grant rules and land ceiling laws. Steps necessary to encourage them to do so must be taken. Appropriate regulations should govern the felling of trees on private holdings.

4.3 Management of State Forests

4.3.1 Schemes and projects which interfere with forests that clothe steep slopes, catchments of rivers, lakes and reservoirs, geologically unstable terrain and such other ecologically sensitive areas should be severely restricted. Tropical rain/moist forests, particularly in areas like Arunachal Pradesh, Kerala, Andaman & Nicobar Islands, should be totally safeguarded.

4.3.2 No forest shall be worked without the Government having approved the management plan, which should be in a prescribed format and in keeping with the National Forest Policy. The Central Government should issue necessary guidelines to the State Government in this regard and monitor compliance.

4.3.3 In order to meet the growing needs for essential goods and services which the forests provide, it is necessary to enhance forest cover and productivity of the forests through the application of scientific and technical inputs. Production forestry programmes, while aiming at enhancing the forest cover in the country and meeting national needs, should also be oriented to narrowing, by the turn of the century, the increasing gap between demand and supply of fuelwood. No such programme, however, should entail clear-felling of adequately stocked natural forests. Nor should exotic species be introduced, through public or private sources, unless long-term scientific trials undertaken by specialists in ecology, forestry and agriculture have established that they are suitable and have no adverse impact on the native vegetation and environment.

4.3.4 Rights and Concessions

4.3.4.1 The rights and concessions, including those regarding grazing, should always remain related to the carrying capacity of forests. The capacity itself should be optimised by increased investment, silvicultural research and development of the area. Stall-feeding of cattle should be encouraged. The requirements of the community which cannot be met by the rights and concessions so determined, should be met by development of social forestry outside of reserved forests.

4.3.4.2 The holders of customary rights and concessions in forest areas should be motivated to identify themselves with the protection and development of forests from which they derive benefits. The rights and concessions from forests should primarily be for the bonafide use of the communities living within and around forest areas, especially tribal groups.

4.3.4.3 The livelihoods of tribal and other subsistence groups living within and near forests are dependent upon forest products. The rights and concessions enjoyed by them should be fully protected. Their domestic requirements of fuelwood, fodder, minor forest produce and construction timber should be the first charge on forest produce. These and substitute materials should be made available through conveniently located depots at reasonable prices.

4.3.4.4 Similar consideration should be given to scheduled castes and the rural poor living near forests. However, the area which such consideration should cover shall be determined by the carrying capacity of the forests.

4.3.4.5 Wood is in short supply. The long-term solution for meeting the existing gap lies in increasing the productivity of forests, whilst relieving some of the existing pressures on forests in the form of demand for railway sleepers, furniture and panelling, pit props for mines, paper and paperboard and in the construction industry (particularly in the public sector), through sourcing alternative materials and utilizing wood substitutes. Similarly, in the case of domestic energy, fuelwood needs should be substituted as far as practica-

ble by alternate sources such as bio-gas, LPG and solar energy. Fuel-efficient 'Chulhas' as a measure of conservation of fuelwood need to be popularised in rural areas.

4.4 Conversion of Forest Lands to Non-Forest Uses

4.4.1 Forest land or land with tree cover should not be treated merely as a resource readily available to be utilised for various projects and programmes, but as a national asset which demands to be properly safeguarded for providing sustained benefit to the entire community. Conversion of forest land for any non-forest purpose should be subject to the most careful examination by specialists from the standpoint of social and environmental costs and benefits. Construction of dams and reservoirs, mining and industrial development and expansion of agriculture should be consistent with the needs for conservation of trees and forests. Projects which involve such conversion should provide in their investment budget funds for regeneration/compensatory afforestation.

4.4.2 Beneficiaries who are allowed to carry out mining and quarrying in forest land and in land covered by trees should be required to repair and re-vegetate the area in accordance with established forestry practices. No mining lease should be granted to any party, private or public, without a proper mine management plan appraised from an environmental angle and enforced by adequate machinery.

4.5 Wildlife Conservation

Forest Management should take special care of the needs of wildlife conservation, and forest management plans should include prescriptions for this purpose. It is particularly essential to provide for 'corridors' linking protected areas in order to maintain genetic continuity between artificially separated sub-sections of migrant wildlife.

4.6 Tribal People and Forests

With regard to the symbiotic relationship between tribal people and forests, a primary task of all agencies responsible for forest management including forest development corporations, should be to associate the tribal people closely in the protection, regeneration and development of forests as well as to provide gainful employment to people living in and around the forest. In addition, special attention shall be given to the following :

- One of the major causes for degradation of forests is illegal cutting and removal by contractors and their labour force. In order to put an end to this practice, contractors should be replaced by institutions such as tribal cooperatives, labour cooperatives and government corporations, as early as possible.
- The protection, regeneration and optimum collection of minor forest produce along with institutional arrangements for the marketing of such produce.
- The development of forest villages on a par with revenue villages*.
- The promotion of family-oriented schemes for improving the status of the tribal beneficiaries.
- The implementation of integrated area development programmes to meet the needs of the tribal economy in and around the forest areas, including the provision of alternative sources of domestic energy on a subsidised basis, to reduce pressure on existing forest areas.

4.7 Shifting Cultivation

Shifting cultivation is affecting the environment as well as the productivity of the land adversely. Alternative avenues of income, suitably harmonised with the right landuse practices, should be devised to discourage shifting cultivation. Efforts should be made to contain such cultivation within the area already affected, by propagating improved agricultural practices. Areas already damaged by such cultivation should be rehabilitated through social forestry and energy plantations.

4.8 Damage to Forests through Encroachment, Fire and Grazing

4.8.1 Encroachment on forest land has increased. This trend has to be arrested and effective action taken to prevent the continuation of existing encroachment.

4.8.2 The incidence of forest fire in the country is high. Standing trees and fodder are destroyed on a large scale and natural regeneration annihilated by such fire. Special precautions should be taken during the fire season. Improved and modern management practices should be adopted to deal with forest fires.

4.8.3 Grazing in forest areas should be regulated with the involvement of the community. Special conservation areas, young plantations and regeneration areas should be fully protected. Grazing and browsing in forest areas need to be controlled. Adequate grazing fees should be levied to discourage people in forest areas from maintaining large herds of non-essential livestock.

4.9 Forest-based Industries

The main considerations governing the establishment of forest-based industries and supply of raw material to them should be as follows :

- As far as possible, a forest-based industry should raise the raw material needed for meeting its own requirements, preferably by establishment of a direct relationship between the factory and the individuals who can grow the raw material by supporting the individuals with inputs including credit, constant technical advice and harvesting and transport services.
- No forest-based enterprise, except that at the village or cottage level, should be endorsed in the future unless it has been first cleared after careful scrutiny with regard to assured availability of raw material. In any

* The revenue village is a unit of administration in India.

case, the fuel, fodder and timber requirements of the local population should not be sacrificed for this purpose.

- Forest based industries must not only provide employment to local people on a priority basis, but also involve them fully in raising trees and raw-material.
- Natural forests serve as a gene pool resource and help to maintain ecological balance. Such forests will not, therefore, be made available to industries for undertaking plantation development or any other activities.
- Farmers, particularly small and marginal farmers shall be encouraged to grow, on the marginal/degraded land available to them, wood species required by industry. These may also be grown along with fuel and fodder species on community lands not required for pasture purposes, and by the Forest Department and corporations on degraded forests, not earmarked for natural regeneration.
- The practice of supply of forest produce to industry at concessional prices should cease. Industry should be encouraged to use alternative raw materials. Import of wood and wood products should be liberalised.
- The above considerations will however, be subject to the current policy relating to land ceiling and land-laws.

4.10 Forest Extension

Forest conservation programmes cannot succeed without the willing support and cooperation of the people. It is essential, therefore, to inculcate in the people, a direct interest in forests, their development and conservation, and to make them conscious of the value of trees, wildlife and nature in general. This can be achieved through the involvement of educational institutions, right from the primary stage. Farmers and interested people should be provided opportunities through institutions like Krishi Vigyan Kendras Trainers' Training Centres to learn agrosilvicultural and silvicultural techniques to ensure optimum use of their land and water resources. Short-term extension courses and lectures should be organised in order to educate farmers. For this purpose, it is essential that suitable programmes are propagated through the mass media, audio-visual aids and the extension machinery.

4.11 Forestry Education

Forestry should be recognised both as a scientific discipline as well as a profession. Agriculture universities and institutions dedicated to the development of forestry education should formulate curricula and courses for imparting academic education and promoting post-graduate research and professional excellence, keeping in view the manpower needs of the country. Academic and professional qualifications in forestry should be kept in view for recruitment to the Indian Forest Service and the State Forest Service. Specialised and orientation courses for developing better management skills by in service training need to be encouraged, taking into account the latest developments in forestry and related disciplines.

4.12 Forestry Research

With the increasing recognition of the importance of forests for environmental health, energy and employment, emphasis must be laid on scientific forestry research, necessitating adequate strengthening of the research base as well as new priorities for action. Some broad priority areas of research and development needing special attention are :

i. Increasing the productivity of wood and other forest produce per unit area per unit time by the application of modern scientific and technological methods.
ii. Revegetation of barren/marginal/waste/mined lands and watershed areas.
iii. Effective conservation and management of existing forest resources (mainly natural forest ecosystems).
iv. Research related to social forestry for rural/tribal development.
v. Development of substitutes to replace wood and wood products.
vi. Research related to wildlife and management of national parks and sanctuaries.

4.13 Personnel Management

Government policies in personnel management for professional foresters and forest scientists should aim at enhancing their professional competence and status, as well as attracting and retaining qualified and motivated personnel, given the arduous nature of the duties they have to perform, often in remote and inhospitable places.

4.14 Forest Surveys and Data

Inadequacy of data regarding the forest resources is a matter of concern because it creates a false sense of complacency. Priority needs to be given to completing the survey of forest resources in the country along scientific lines and to updating existing information. For this purpose, the periodical collection, collation and publication of reliable data on relevant aspects of forest management need to be improved with recourse to modem technology and equipment.

4.15 Legal Support and Infrastructure Development

Appropriate legislation should be enforced, supported by adequate infrastructure, at the Centre and State levels in order to implement the Policy effectively.

4.16 Financial Support for Forestry

The objectives of this revised Policy cannot be achieved without the investment of financial and other resources on a substantial scale. Such investment is indeed fully justified considering the contribution of

forests in maintaining essential ecological processes and life-support systems and in preserving genetic diversity. Forests should not be looked upon as a source of revenue. Forests are a renewable natural resource. They are a national asset to be protected and enhanced for the well-being of the people and the Nation.

(**K.P. Geethakrishnan**)
Secretary to the Government of India

Annex 2
The Circular
Concerning Joint Forest Management

(Source : http : //www.rupfor.org/ nat-scenario/CircularOnJFM1990.rtf)

No. 6.2 1/89-F.P.

Government of India
Ministry of Environment and Forests
Department of Environment, Forests and Wildlife
Paryavaran Bhavan, C.G.O. Complex, B-Block
Lodi Road, New Delhi
1st June 1990

The Forest Secretaries
(All States/UTs)

Subject : Involving of village communities and voluntary agencies in the regeneration of degraded forest lands.

Sir,

1. The National Forest Policy, 1988, envisages people's involvement in the development and protection of forests. The requirements of fuel-wood, fodder and small timber such as house building material, of tribal groups and other villagers living in and near the forests, are to be treated as first charge on forest produce. The policy document envisages it as one of the essentials of forest management that the forest communities should be motivated to identify themselves with the development and protection of forests from which they derive benefits.

2. In D.O. letter No. 1/188-TMA dated 13th January 1989 to the Chief Secretary of your State, the need for working out the modalities for giving to village communities living close to forests and defining usufructuary benefits to ensure their participation in the afforestation programme, was emphasized by Shri. K.P. Geethakrishnan, the then Secretary Environment and Forests.

3. Committed Voluntary Agencies/NGOs, with a proven track record, may prove particularly well suited for motivating and organizing village communities for protection, afforesation, and development of degraded forest land, especially in the vicinity of habitations. The State Forest Department's Social Forestry Organization ought to take full advantage of their expertise and experience in this respect to encourage the meaningful participation of the people in protection and development of degraded forest lands. The Voluntary Agencies/NGOs may be associated as an interface between State Forest Departments and the local village communities for revival, restoration and development of degraded forests in the manner suggested below :

- The programme should be implemented under an arrangement between the Voluntary Agency/ NGO, the village community (beneficiaries) and the State Forest Department.
- No ownership or lease right over the forest land should be given to the beneficiaries or to the Voluntary Agency/NGO. Nor should the forest land be assigned in contravention of the provisions contained in the Forest (Conservation) Act, 1980.
- The beneficiaries should be entitled to a share in usufruct to the extent and subject to the conditions prescribed by the State Government in this behalf. The Voluntary Agency/NGO should not be entitled to usufructuary benefits.
- Access to forest land and usufructuary benefits shall be granted only to beneficiaries organized into a village institution specifically for forest regeneration and protection. This could be the panchayat or the village co-operative of the village with no restriction on membership, or it could be a Village Forest Committee. In no case should any access or tree pattas be given to individuals.
- Beneficiaries should be given user rights over minor forest products such as grasses and 'lop and top'. If they successfully protect the forests, they may be given a portion of the proceeds from the sale of trees when they mature. The Government of West Bengal has issued orders to give 25% of the sale proceeds to the Village Forest Protection Committees. Similar approaches may be adopted by other States.
- Areas to be selected for the programme should be free from the claims (including existing rights, privileges, concessions) of any person who is not a beneficiary under the scheme. Alternatively, for a given site the selection of beneficiaries should be done in such a way that any one who has a claim to any forest produce from the selected site is not excluded without being given full opportunity to join.
- The selected site should be worked in accordance with a Working Scheme, duly approved by the State Government. Such a scheme may remain in operation for a period of 10 years and revised/ renewed after that. The Working Scheme should be prepared in consultation with the beneficiaries. Apart from protection of the site, the scheme may also prescribe requisite operations such as the inducement of natural regeneration of existing

root stock ; seedling gap filling ; and wherever necessary, intensive planting, soil-moisture conservation measures etc. The Working Scheme should also prescribe other operations including fire-protection, maintenance of boundaries, weeding, tending, cleaning, thinning etc.

- For raising nurseries, preparing land for planting and protecting the trees after planting, beneficiaries should be paid by the Forest Department from the funds made available under the Social Forestry Programme. However, the village community may obtain funds from other Government agencies and sources for undertaking these activities.
- It should be ensured that there is no grazing at all on the forest land protected by the village community. Permission to cut and carry grass free of cost should be given so that stall feeding is promoted.
- No agriculture should be permitted on the forest land.
- Along with trees for fuel, fodder and timber, the village community may be permitted to plant such fruit trees as would fit in with the overall scheme of afforestation, such as aonla, Imli, mango, mahua, etc. as well as shrubs, legumes and grasses which would meet local needs, help soil and water conservation, and enrich degraded soils/land. Even indigenous medicinal plants may be grown according to the requirements and preferences of beneficiaries.
- Cutting of trees should not be permitted before they are ready for harvesting. The Forest Department also should not cut the tress on the forest land being protected by the village communities except in the manner prescribed in the Working Scheme. In case of emergency needs, the village communities should be taken into confidence.
- The benefit of people's participation should go to the village communities and not to commercial or other interests which may try to derive benefit in their names. The selection of beneficiaries should, therefore, be done from only those families which are willing to participate through their personal efforts.
- The Forest Department should closely supervise the works. If the beneficiaries and/or the Voluntary Agency/NGO fail or neglect to protect the area from grazing, encroachment or do not perform the operations prescribed in the Working Scheme in a satisfactory manner, the usufructuary benefits should be withdrawn without paying compensation to anyone for any work that might have been done prior to it. Suitable provisions in the Memorandum of Understanding (MOU) of this purpose should be incorporated.

Yours faithfully.

Sd/-
(Mahesh Prasad)
Secretary to Government of India.

Copy for information and necessary action to :
1. Principal Chief Conservator of Forests/Chief Conservator of Forests All States/UTs.
2. Additional Secretary, National Wasteland Development Board, Ministry of Environment and Forests, New Delhi.
3. Chief Conservator of Forests (Central) of all Regional Offices located at : Bhubaneshwar, Bangalore, Bhopal, Shillong, Luchknow, Chandigarh.
4. All DIGFs including N.W.D.B., New Delhi.
5. All Officers of the Ministry of Environment and Forests.

Sd/-
(K.M. Chadha)
Joint Secretary to Govt. of India.

Copy for information to the :
1. Secretary (co-ordination), Cabinet Secretariat, Rashtrapati Bhavan, New Delhi.
2. Secretary, Department of Rural Development, New Delhi.

Sd/-
(K.M. Chadha)
Joint Secretary to Govt. of India.

Annex 3
JFM Cell Creation Notification
(Source : http : //www.rupfor.org/jfm—india.htm)

No. 1-13/97-FF
Government of India
Ministry of Environment & Forests
Paryavaran Bhavan
CGO Complex
New Delhi - 110 003
19th August 1998

OFFICE ORDER

1. With the protection of forests having become a priority concern, the Ministry has decided to extend the scope of the Forest Fire Division in the Ministry to cover all aspects of protection of forests. Henceforth, this division would be called the 'Forest Protection Division'.

2. Further, in view of the growing realization that public participation through Joint Forest Management Programme is crucial for effective protection of forests in the country, it has been decided to create a Joint Forest Management Monitoring Cell within the Ministry, to monitor the impact of JFM Programmes being carried out by the State Governments for the improvement and protection of forests. The work of this Cell will

be looked after by the Forest Protection Division.

Issued with the approval of MEF.

(Sarweshwar Jha)
Joint Secretary to the Government of India

Copy to :
1. PS to MEF PS to MOS PPS to Secretary (E&F)/IGF & SS.
2. SS(VV), all Addl. Secry's, Addl. IGF (WL), all Jt. Secry's/all Directors.
3. All DIG's of forests and all divisions including NRCD and CCU in the Ministry of Environment and Forests.

Annex 4
Standing Committee Notification
(Source : http : //www.rupfor.org/jfm—india.htm)

No. 1-13/97-FPD

Government of India
Ministry of Environment & Forests
Paryavaran Bhavan
CGO Complex, Lodi Road
New Delhi - 110 003
6th November 1998

NOTIFICATION

1. The Ministry of Environment & Forests hereby constitutes a 'Standing Committee on Joint Forest Management' to advise on JFM matters and appoint the following persons as its members.

2. Constitution of the Committee :

1	Dr. T.N. Khossoo, Eminent Scientist	Chairman
2	Shri A.K. Mukherji, IGF (Retd.)	Co-Chairman
3	Shri C.S. Chadda, Principal Secretary, Govt. Of M. P.	Member
4	Jt. Secretary NAEB, MoEF	Member
5	Shri G.B. Thapliyal, CCF (Dev. JFM), West Bengal	Member
6	Dr. R.K. Pachauri, Director, TERI, New Delhi	Member
7	Prof. Kanchan Chopra, Institute of Economic Growth, Delhi University, Delhi	Member
8	Shri S.S. Rizvi, WWF India New Delhi	Member
9	Dr. Parvez Ahmed, Dy. IGF. MoEF	Member
10	Dr. V.K. Bahuguna, Dy IGF, MoEF	Member
11	Shri D.K. Sharma, Sr. AIGF, MoEF	Joint Member Secretary

3. The terms and conditions of the references of the Committee are :

(i) To review the implementation of JFM programmes in the country, advise on its operational aspects including institutional mechanism and advise the Government.

(ii) To review the existing JFM arrangements and suggest appropriate changes in their implementation to achieve the essence of the programme and submit annual recommendations.

(iii) To suggest an approach and a mechanism to be adopted for the expansion of JFM on other wastelands from time to time.

(iv) To go through the reports prepared by various international and national agencies on JFM and advice on their applicability to the system.

4. Other matters relating to JFM may be referred to the committee from time to time.

5. The Committee will meet in Delhi.

6. The tenure of this committee shall be for a period of 2 years from the date of its notification.

7. A sitting fee of Rs.300/- per day will be paid on the meeting day to the non-official members and local transport charges for the return journey shall be reimbursed as per rules.

This issues with the approval of the Minister for Environment & Forests, Government of India.

Sd/-
(Dr. V.K. Bahuguna)
Deputy Inspector General of Forests

Copy to :
1. All members of the Committee
2. Copy also to :
3. PS to MEF/PS to MOS/PPS to Secretary/IGF & SS/ PS to SS(VV)JS & FA

(Dr. V.K. Bahuguna)
Deputy Inspector General of Forests

Annex 5
Terms of Reference Notification
(Source : http : //www.rupfor.org/jfm—india.htm)

No. 22-8/98-FPD

Government of India
Ministry of Environment and Forests
Forest Protection Division
Paryavaran Bhawan,
CGO Complex, Lodi road,
New Delhi - 110 003
12th November 1999

NOTIFICATION

1. As per the decision taken in the meeting of Nodal Officers of Joint Forest Management held in Delhi on 27.10.99, the following committee is constituted to submit its report to the JFM cell on the Terms of Reference outlined below.

1	Shri R.M. Das, CCF, West Bengal	Chairman
2	Shri I.D. Pandey CCF, U.P.	Member

3 Shri Venugopal, CF, Karnataka Member
4 Shri S.K. Srivastava, CF, Rajasthan Member
5 Shri R.S. Pathan, JFM Cell, GEER Foundation, Gujarat Member
6 Shri Munindra, DCF, Andhra Pradesh Member
7 Shri Anil Oberai, Cf, Madhya Pradesh Co-ordinator

2. Terms of Reference

(a) To prepare formats for Monitoring of JFM programme at all levels (Division, State and National) with respect to its impact on protection and development of forests.

(b) To suggest Ways and Means for sharing of experiences between various states.

(c) To identify items for systematic funding of JFM programme giving due regard to its long-term sustainability.

3. The Committee can co-opt any other official member.

4. The Committee will submit its report by 31st December 1999.

Issued with the approval of IGF & SS.

(Dr. V.K. Bahuguna)
Dy. Inspector General of Forests

Copy to :
i) All concerned
ii) PPS to IGF&SS/PPS to Addl.IGF (MK)

Annex 6
Notification for JFM Network

(Source : http : //www.rupfor.org/jfm—india.htm)

No. 22-8/98-FPD
Government of India
Ministry of Environment and Forests
Forest Protection Division
Paryavaran Bhawan,
CGO Complex,
Lodi Road, New Delhi -110003
11th February 2000
NOTIFICATION

1. The Constitution of the Network. The Ministry of Environment and Forests hereby constitutes a 'JFM Network' with the following members.

1 Inspector General of Forests & Special Secretary Chairman
2 Addl. IGF (MK) Vice Chairman
3 A representative of NAEB Member
4 Five PCCFs (one from each zone) by rotation for a period of one year Member
5 A representative of World Bank, India Member
6 A representative of Ford Foundation, New Delhi Member
7 A representative of DFID, New Delhi Member
8 A representative of SPWD Member
9 A representative of WWF Member
10 A representative of OECF, Japan Member
11 A representative of Tata Energy Research Institute Member
12 Two young field officers (one women) implementing JFM in the field by rotation Member
13 Two representative of grass root level NGOs (one women) by rotation Member
14 A representative of National NGO Working in Forestry & Rural Development Member
15 One international NGO active in the field of JFM Member
16 DG, ICFRE, Dehra Dun Member
17 Director, IIFM, Bhopal Member
18 Director, IGNFA, Dehra Dun Member
19 Director, FSI, Dehra DunMember
20 DIG, Forest Policy Member
21 DIG, Forest Protection Member Secretary
22 AIG, JFM Cell Joint Member Secretary

2. The Network will have the following terms of reference.

i) To act as a regular mechanism of consultation between various agencies engaged in JFM work in the country.

ii) To obtain constant feed back from various stakeholders on the JFM programme for proper policy formulation and suitable direction to States.

3. The Network will meet as and when felt necessary but at least twice a year.

4. The Chairman can co-opt any organization in the Network. Serial No. 12, 13, 14 and 15 to be nominated for two years on rotation by IGF & SS.

Issued with the approval of the Minister for Environment and Forests, Government of India.

(Dr. V.K. Bahuguna)
Dy. Inspector General of Forests

To :
1. All concerned.
2. Secretary Forests (All States/UTs)
3. Principal Chief Conservator of Forests (All States / UTs)

Copy to :
1. PS to MEF
2. PS to MOS
3. PPS to Secretary (E&F)/IGF&IGF&SS/SS (VV) Addl. IGF (MK)

Annex 7
Guidelines for Strengthening JFM

(Source : http : //www.rupfor.org/jfm—india.htm)

No. 22–8/2000-JFM (FPD)

Government of India
Ministry of Environment and Forests
(Forest Protection Division)

Paryavaran Bhawan, CGO Complex,
Lodi Road, New Delhi.
21st February 2000

To
The Secretaries
Forest Departments
(All States/UTs)

Subject : Guidelines for strengthening of Joint Forest Management (JFM) Programme.

Sir,

1. As per the provisions of National Forest Policy 1988, the Government of India, vide letter No. 6.21/89-PP dated 1st June, 1990, outlined and conveyed to State Governments a framework for creating a massive people's movement through involvement of village committees for the protection, regeneration and development of degraded forest lands. This gave impetus to the participation of stakeholders in the management of degraded forests situated in the vicinity of villages. The joint forest management programme in the country is structured on the broad framework provided by the guidelines issued by the Ministry. So far, during the last ten years, 22 States Governments have adopted resolutions for implementing the JFM programme in their respective states. As on 1.1.2000, 10.24 million ha of forests lands are being managed under JFM programme through 36075 committees.

2. The JFM programme in the country has been reviewed by the Government of India from time to time in consultation with State Governments, NGOs and other stakeholders in view of several emerging issues. In order to further strengthen the programme, State Governments may take action along the following suggested lines.

(A) Legal backup to the JFM Committees :

1. At present, the JFM committees are being registered under different names in various States as per the provisions contained in the resolutions. Except in a few States where the committees are registered under the relevant acts in most of the states there is no legal backup for these committees. It is, therefore, necessary that all the State Governments register the JFM or village committees under the Societies Registration Act, 1860, to provide them with legal back up. This may be completed by 31st March 2000. Completion of such formation of existing JFM committees should be reported to this Ministry.
2. There are different names in use for the JFM committees in different States. It would be better if these committees are known uniformly as JFM committees (JFMC) in all the states. A Memorandum of Understanding, with clearly defined roles and responsibilities for different work or areas should be separately assigned and signed between the State Governments and the committees. All adults of the villages should be eligible to become members of the JFM committees.

(B) Participation of women in the JFM programme :

Considering the immense potential and genuine need for women's involvement in the JFM programme, the following guidelines are suggested for ensuring their meaningful participation.

1. At least 50% of the members of the JFM general body should be women. As a prerequisite, a minimum of 50% of members present at general body meetings should be women.
2. At least 33% of the membership in the JFM Executive Committee/Management Committee should be women. The quorum for meetings of the Executive/Management Committee should be one-third women executive members. One of the posts of the office bearer i.e. President/Vice-President/Secretary should be filled by a female member of the Committee.

(C) Extension of JFM in good forest areas

For better resource planning and collective management, the distance from the village and the village's dependency on a forest should be the main criteria in allowing JFM programme to operate. Therefore, a JFM programme should cover both degraded as well as good forests (except the protected area network). The micro-plan or treatment plan and memorandum of understanding should be different for degraded forests and good forests (crown density above 40%). In good forest areas, the JFM activities should concentrate on NTFP management and no alternation should be permitted in the basic silvicultural prescription prescribed in the Working Plan. This should involve the promotion of regeneration, development and sustainable harvesting of NTFPs that can be obtained for free or at a confessional rate as per the existing practice in degraded areas under JFM. The benefit sharing mechanism will also be different in good forest areas. The JFM committees will be eligible for benefit sharing for timber, only if they have satisfactorily protected the good forests for a minimum period of the last 10 years and the sharing percentage shall be limited to a maximum of 20% of the revenue earned from the final harvest. The felling of trees and harvesting of timber will be as per the provisions of the Working Plan. A certain percentage of revenue from the final harvest should be invested back into the silviculture and management of the forests. The extent of good forest areas to be incorporated in this scheme will depend upon the number of village households and should be restricted to a maximum limit of 100 ha and generally limited to that forest area which falls within 2 km of the village boundary. Similarly, degraded forests under JFM should as far as possible be concentrated within 5 km of

the village boundary. The implementation of JFM in good forest areas shall be done in a phased manner on a pilot basis. Pilot areas will be monitored closely for a few years and based on the feedback and success achieved the programme may be extended further in consultation with the Central Government. Before incorporating good forests on a pilot basis, all degraded forests within the locality should first be incorporated simultaneously.

(D) Preparation of microplan in JFM areas :

1. In the case of a new Working Plan, a JFM overlapping working circle should be provided to incorporate broad provisions for microplans. To achieve this, flexible guidelines should be evolved for the preparation of microplans based on local needs. For this purpose, the Working Plan officer will work in tandem with the territorial DFO and CF for finalisation of the prescriptions of the JFM overlapping working circle. The microplans should be prepared by the Forest Officers and Village Forest Protection Committees after detailed a PRA exercise and should reflect the consumption and livelihood needs of the local communities as well as provisions for meeting these demands in a sustainable manner. It should utilise locally available knowledge as well as aim to strengthen local institutions. It should also take into account marketing linkages for better return of NTFPs to the gatherers and should also reflect and needs of local industries/markets. This should be done with due regard to the environmental functions and productive potential of the forests and their carrying capacity as well as their conservation and biodiversity values.
2. In areas where Working Plans are already in force (and until their revision in the future), a special order may be issued by the PCCF to implement the incorporation of micro plans into an existing Working Plan. In such areas, a microplan should aim at ensuring a multi-product and a more NTFP-oriented approach. Without changing the basic principles of silviculture, deviations may be approved in the existing Working Plan if necessary. To ensure this, the concerned DFO and CF should dovetail the requirements of microplan with the Working Plan.
3. The microplan should also take into consideration and provide suitable advice for areas planted/to be planted on community lands and other Government lands outside the notified forest areas including the district council areas in the North East.
4. Infrastructure/Eco-development under microplans constitute a separate entity for funding through concerned development agencies.

(E) Conflict resolution

In order to resolve conflicts in the functioning of JFM committees and to maintain harmony among different group participating in JFM, State Governments may constitute divisional and state level representative forums or working groups. This forum/group should include representatives from all the stakeholders including NGOs. The model prescribed by the Andhra Pradesh Government for this purpose is a case in point for consideration.

(F) Recognition of self-initiated groups

The community groups in many places in Orissa, Bihar, Gujarat, Andhra Pradesh and Karnataka are performing the essential functions of forest protection and regeneration. These groups need to be identified, recognized and registered as JFM Committees after proper verification of records and a thorough inquiry. The period of their existence and duties performed for protection and regeneration should be suitably assessed and proper weight given to them for deriving benefits under the JFM programme.

(G) Contribution for regeneration of resource :

1. For long-term sustainability of resources, it is essential that a mechanism be created for investing a certain percentage of the revenue earned from final harvest into regeneration. For this purpose, no less than 25% of the share of village community should be deposited in the village development fund for meeting the conservation and development needs of the forests. A matching contribution may be made by the forest department from its share of such sales. There should be a transparent mechanism for the computation of incomes and the sharing the benefits between different stakeholders.
2. Monitoring and Evaluation : Concurrent monitoring of progress and performance of this programme should be undertaken at Division and State level. Evaluation of the programme should be planned at an interval of 3 years and 5 years at Division and State level respectively.

Yours faithfully,
(C.P. Oberai)
Inspector General of Forest & Special Secretary

Copy for information and necessary action to :

- Principal Chief Conservator of Forests/Chief Conservator of Forests (All States/UTs).
- Special Secretary, National Afforestation and Eco-development Board, Ministry of Environment and Forests. New Delhi.
- Secretary, National Wasteland Development Board, Ministry of Rural Development, New Delhi.
- Chief Conservator of Forests (Central) of all Regional Offices located at Bhubaneshwar, Bangalore Bhopal, Shillong, Lucknow, Chandigarh.
- DG, ICFRE, Dehra Dun.
- Director, Indian Institute of Forest Management, Bhopal.
- Director, Indira Gandhi National Forest Academy,

Dehra Dun.
- Director, Forest survey of India, Dehra Dun.
- Director, Forest Education, Dehra Dun.
- Director, Wildlife Institute of India, Dehra Dun.
- All Officers of the Ministry of Environment and Forests.

(Dr. V.K. Bahuguna)
Dy. Inspector General of Forests

Policy Trend Report 2002: 114-121

A Review of Forest Policy Trends in Bangladesh
—Bangladesh Forest Policy Trends—

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Abstract : Forest policy in Bangladesh has its origins in the nation's colonial past and has a distinct commercial slant. The first formal forest policy to be enunciated in what was then British India came into effect in 1894 and was characterized by the progressive commercialization of forest use for revenue maximization, expansion of agricultural land at the expense of forests for commercial farming, systematic alienation of local communities from forests, and the progressive diminution of their traditional rights. The Pakistani period of rule (1947–1971) witnessed the formation of two forest policies, in 1955 and 1962. However, this period did not differ much in essence from the colonial period, and was characterized by a similar trend towards commercialization and the consequent alienation of local communities. As such, local rights and demands remained ignored as before. Following a bloody insurgency war, Bangladesh surfaced as a sovereign state on the global map in 1971. The Government of Bangladesh adopted the first National Forest Policy in 1979 with the objective of providing greater protection and placing greater emphasis on conservation of the country's forest assets whilst concomitantly developing its rural and industrial economies. However, the policy largely ignored the crucial issue of community participation and, consequently, little changed in comparison to the traditional colonial-industrial approach to forestry. The current forest policy was introduced in 1994 and represents the first shift towards recognition of the importance of people's participation in forestry. Sustainable development, poverty alleviation, local people's participation in forest protection, and governmental support for forestry development from a broader sector of society are some of the important policy commitments of the new people-oriented forestry initiative in Bangladesh.

Key words : Forest policy, colonial, commercial, alienation, people's participation.

1 Introduction

With nearly 124 million people and a per capita annual income of US $277 (1997), Bangladesh is one of the most densely populated developing countries of the world. Forestry represents one of the major sectors of renewable resources in Bangladesh, and contributes to both economic and ecological stability. The contribution of the forestry sector to GDP is about 3–4 per cent and the sector directly employs about 2.5 per cent of the labour force (BBS 2000). As an integral part of the Ministry of the Environment and Forests formed in 1989, the Forest Department (hereafter FD) administers the country's forest resources and manages all government forest lands.

The history of forestry in Bangladesh is one of continuous depletion of forest resources both in terms of area and quality (FMP 1994). Most deforestation in government forests has occurred due to the inadequacy of the bureaucratic custodian approach to forest management (Khan 1998). Since the early 1980s, forestry in Bangladesh has witnessed a rapid succession of social forestry programmes in an attempt to redress public alienation and to allow for wider participation of local people in forest use and management.

Forest policy in Bangladesh has been highly influenced by political change throughout the past two centuries and as such reflects the country's colonial heritage. The nation's forest resources and the authority over them have been centralized under the government, superseding traditional rights and communal authority. Despite this, national policy has been largely ineffective in maintaining the sector's contribution to the economy (Task Force 1987). In its determination to expand and conserve natural forests, the government has lately recognized the need for developing adequate policy and framework planning, including appropriate institutional reforms to promote people's involvement in forest management and conservation (Khan 2001). This paper aims to review and assess the trends in forest policy in Bangladesh with particular emphasis on the nature and magnitude of peoples' participation in forest management.

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2 Forest resources of Bangladesh

2-1 Present status

Based on geographical location, climate, topography and management principles, the forests of Bangladesh can be broadly classified into six forest types, namely, hill forests, unclassified state forests, plain land Sal forests, mangrove forests, coastal forests and homegardens. The distribution of these different forest types is given in Table 1.

An estimated 2.46 million hectares of the total land area of the country is classified as forest, of which 2.19 million hectares is under legal government title. The remaining 0.27 million hectares is composed of privately

Table 1 Distribution of different forest types in Bangladesh.

		Area, million ha (% of total land area)	Growing stock, million m^3 (stocking, m3/ha)++
Forest type	Hill forest	0.67 (4.65)	28.32 (42.30)
	Unclassified state forest	0.72 (5.00)	Negligible (denuded)
	Plain land Sal forest	0.12 (0.83)	1.13 (0.94)
	Mangrove forest	0.57 (4.00)	13.19 (23.10)
	Coastal plantation	0.11 (0.76)	5.05 (45.90)
	Homegardens	0.27 (1.87)	54.68 (202.5)
	Total	2.46 (17.11)+	-

+ rounding prevents figures from adding up exactly.
++ refers to wood volume, not total biomass.

managed homegardens (FMP 1994). Of the total government forest land, 1.47 million hectares is under the control aegis of the FD. The rest, which comprises mainly barren hills in the Chittagong hill tracts, lies under the control of local government councils and is deemed unclassified state forest. Government forest land and homegardens together make up 17% of the potential tree growing area of the country, the lowest figure of any South Asian country (Millat-e-Mustafa 1996).

2-2 Degradation of the forest resource

The high and rapidly growing population of Bangladesh places great strain on all resources. The population of the country has leapt from 40 million in 1940, to its present figure of about 126 million and is predicted to reach 177.3 million by 2025 and 210.8 million by 2050 (Davidson 2000). Since the existing forest estate faces continual depletion, forestry is regarded as a particularly vulnerable sector. During the 1980s, the rate of forest destruction was 8,000 hectares per year. However, according to a recent survey by FAO, that rate has increased to 37,700 hectares per year. A document of a multilateral development bank reckoned the annual deforestation rate at 3.3 (Khan 2001). A recent survey conducted by USAID and CIDA suggests that 50 per cent of the nation's forests have been destroyed within the last 20 years (Huda and Roy 1999). Consequently, per capita forest land has declined from 0.035 hectares in 1969 to 0.02 hectares in 1990. Deforestation causes a decrease in catchment area water-holding capacity, increased soil erosion, and the loss of habitats and biodiversity. The cost of these impacts on the economy was estimated at one per cent of GDP in 1990 (BBS 1999).

The forestry situation of the country is further exacerbated by the eccentric spatial distribution of the existing forest areas. Almost 27 per cent of the government forests are located in the eastern region of the country along international frontiers (hill forests). A further 23 per cent is situated in the southwestern corner of the country along the Bay of Bengal (mangrove forests). The vast flat countryside where almost the whole population live has only 0.12 million hectares (five per cent of the total forest area) of plain land Sal (*Shorea robusta*) forest. In 28 out of the 64 districts of Bangladesh there are no natural forests left (FMP 1994). Northwest Bangladesh has only about two per cent tree cover. Moreover, productivity of the existing forests is exceptionally low. ODA (1985) estimated that the productivity of mangrove forest has declined by 25% over a period of 25 years. The yield of hill forests has declined at the same rate. While major portions of the natural hill forests are inaccessible and hence either under-utilized or un-utilized, the accessible forests have been over-utilized or denuded and in parts severely encroached. Consequently the benefit ordinarily derivable even from these meager forest areas with appropriate management and development are not available to the people at present (Millat-e-Mustafa 1996). The Forest Resources Management Project estimated these government forests met only about 15 per cent of the timber and fuel wood requirements of the country (FRMP 1992).

3 Early history of forest administration in Indo-Bangladesh

Descriptions of the early forest history of the Indo-Bangladesh region are available from various sources, notably *Arthashastra of Kautilya,* written by Chanakya, the prime minister of Chandra Gupta Maurya in 321 B.C., and *Inscription of Ashoke* which dates back to 273 B.C.–236 B.C. (Dwivedi 1980). Under the rule of Chandra Gupta Maurya, a fully-fledged FD, headed by a superintendent of forest products or Kupadhyaksha, was in operation. The Kupadhyaksha was assisted by a number of Banopals, or forest guards, whose duties and responsibilities were specified by law (Kamal *et al.* 1999).

During the Maurya Empire, forests were classified under three distinct headings, namely, reserve forests, forests donated to eminent Brahmins, and public forests. Reserve forests were sub-categorized into reserve forests for the king which were tightly controlled and preserved for hunting purposes, and reserve forests for the state, which fell under the jurisdiction of the Kupadhyaksha. There is evidence that afforestation took place for specific purposes in reserve forests. Public rights to forest use were strictly regulated. It was an offence to light fires in the forest and felling of trees in state forests was prohibited. Persons caught trapping, killing or otherwise molesting birds and fish that do not prey upon other living creatures, were subject to fines of 26 silver coins. The fine was double in the case of deer and other wild animals. Above all, forest protection was official Mauryan government policy. No one was allowed to kill animals in the forests on Purnima, Chaturdashi, Amabasya and Pratipada days (Dwivedi 1980).

Following the fall of the Maurya Empire, the sub-continent was ruled first by Kushans, who were in turn succeeded by the Guptas. Although the Gupta Empire ended in the year 673 A.D., local Gupta princes continued to rule even into the twelfth and thirteenth centuries in some areas. Forests were one of the main sources of state revenue throughout the Gupta period and forest revenue collectors, termed Gaulmikas, were appointed specifically for this purpose. At this time, forests were used in particular to supply timber, elephants, bamboo, cane, natural fibres and medicinal herbs (Kamal *et al.* 1999).

During the period 800–1400, Bengal came under the rule of the Pals as the Indo-Bangladesh region was divided into a large number of individual sovereign states (Dwivedi 1980). Forestry was administered at the state level by respective FDs. Throughout this period, the effects of over-harvesting of timber, conversion of forests to alternative land uses and the impact of feudal battles in the form of fire and felling for defense together contributed to widespread forest destruction.

The sub-continent was once again unified during the Mughal period (1526–1700) as individual states were brought under central Mughal control and administered as federal states or Suba, including Bengal Suba. Agriculture was prioritized above forestry leading to forest clearance. In addition, Mughals gazetted forest game reserves or Sikargah, for the purpose of hunting (Dwivedi 1980). Dhaka was developed as a great ship-building center with its timber sourced from the Chittagong hill tracts (Khattak 1979).

The end of the Mughal period was followed by the arrival of the British and the establishment of the East India Company. Under colonial rule and up until the middle of the nineteenth century, forests of the sub-continent were subject to exploitation on a gigantic scale for ship-building and railway sleeper production without concern for forest preservation and development. Forest conservation began in Bengal with the appointment of M.T. Anderson as conservator of forests for the Lower Province (Bihar, Orissa, Bengal, and Assam) in 1864.

The Indian Forest Act of 1865 was the first piece of legislation to constitutionalise reserved and protected forests. In 1869, an assistant conservator of forests was appointed to select forests suitable for reservation in the Chittagong hills ; by 1871, 5670 square miles (out of a total of 6882 square miles within the district) had been gazetted as government forest. In 1872, Sir William Schlich was appointed as the conservator of forests of Bengal. Five forest divisions fell under his jurisdiction, namely, Cooch Bihar, Assam, Dhaka, Chittagong and Bhagalpur (Dwivedi 1980).

Following reorganization in 1876, the Bengal Forest Department began operation through five forest divisions : Darjeeling, Palaman, Jalpaiguri, Sundarbans and Chittagong (Dwivedi 1980). Succeeding the first Indian Forest Act of 1865, a second act was promulgated in 1878. In 1893, the Chittagong Forest Division headquarters were transferred from Rangamati to Chittagong and in 1909 Chittagong Hill Tracts Division was formed by splitting up the Chittagong Division. The newly constituted Chittagong Hill Tracts Division comprised several blocks, namely, Kassalong, Rangkhiang, Sitapahar, Matamori and Sungoo with a total area of 1,065 square miles, and unclassified state forests with an area of 4,030 square miles. In 1920, the division was reorganized and reduced in size by the formation of Cox's Bazar Division, the Sungoo reserve being transferred to Chittagong Forest Division and Matamuhuri reserve to the Cox's Bazar Forest Division (Choudhury 1972).

With the partition of Bengal in 1947, Chittagong, the Chittagong hill tracts, Dhaka, Sunderbans and a small part of Assam Forest Divisions fell within the territory of Bangladesh (then East Pakistan) (Wadud 1989).

4 Organizational structure of the FD

After the liberation war of 1971, the post of inspector general of forests was established in the Bangladeshi FD, though this was soon revoked by the Government. The FD has since been headed by a chief conservator of forests (CCF) who was initially assisted by one deputy

chief conservator of forests (DCCF). At that time, the department was organized into six circles, each with its own remit of activities. These were named the central circle, the eastern circle, the plantation circle, the development circle, the wildlife circle and a general administration circle ; all were placed under the direct command of the CCF and each circle was headed by a conservator of forests (CF). There were several forest divisions under each circle and each division was headed by a divisional forest officer (DFO), who was a deputy conservator of forests (DCF). DFOs were assisted by an assistant conservator of forests (ACF). Within each division, a range forest officer (RFO) or range officer (RO) was placed in charge of the geographical range allocated to that division. Ranges were divided into a number of forest beats which were the responsibility of a deputy ranger or a forester. A beat was the lowest administrative unit of the forest administration and management.

This organizational structure was in place until the implementation of the 1979 forest policy which instigated a reorganization of the FD. Under the new structure, the CCF was directly assisted by three DCCFs, with responsibility over development planning, management planning and forest extension respectively. In addition, the CCF was assisted by one CF and five assistant chief conservator of forests (ACCF), each equivalent in rank to the DCF and other staff. The circles also underwent a change of name (becoming the Rangamati circle, the eastern circle, the central circle, the Bogra circle, the Jessore circle, and the plantation circle) and two additional units were formed : the forestry development and training centre, and the general administration and wildlife centre. Several new forest Divisions were introduced. Some forest divisions were divided into two or more sub-divisions, each under a subdivisional forest officer (SDFO), an officer of higher rank than that of an assistant conservator of forests. There were no major changes in other administrative units.

5 Forest policies of Bangladesh

5-1 Historical perspective

The forest policy of Bangladesh has been highly influenced by political changes that have occurred in the country over a long period of history. After several preliminary steps, the first policy statement was issued in British India in 1894, which was modified in 1904. Following the partition of British India in 1947, the Government of Pakistan (including East Pakistan which became Bangladesh in 1971) declared its forest policy in 1955, which was again modified in 1962. After the liberation of Bangladesh in 1971, the first Bangladesh forestry conference was held in 1977, signifying an awakening for national forestry and a growing concern for forests and various aspects of their management. The Government of Bangladesh declared its first forest policy in 1979 and the second and current forest policy in 1994. The salient features of the forest policies are outlined below.

5-2 Forest policy of 1894

British India's first forest policy was enacted in Circulation No. 22-F dated the 19th October 1894, which laid down public benefit - mainly as a source of revenue of the state - as the sole objective for the management of public forests by restricting the rights and privileges of their users. Other important directives of the policy were :

- to maintain forests in hilly areas for the preservation of climatic and physical conditions, and for the protection of cultivated land in the plains below from siltation, soil erosion, floods etc., as well as the general devastating effects of torrents ;
- to convert forest areas into agricultural land wherever an effective demand for cultivable land exists, thus giving preference to agriculture over forestry ;
- to allow people to satisfy their requirements from second class state forests capable of producing only small timber, fuelwood and fodder, given that the first object of management should be the perpetuation of the forest and the second should be the continued supply of forest products for the greater advantage and convenience of the people.

5-3 Forest policy of 1955

Since the forest policy of 1894 had been framed for the 19th century forest resource - in rich, pre-partitioned India - a reassessment of policy was required following the establishment of Pakistan as an independent state to better address the needs of the contemporary situation. The 1894 forest policy was, therefore, re-oriented on 12th November 1955. The important policy statements were as follows :

- forests should be classified on the basis of their utility and forestry should be given a high priority in national development plans ;
- provision should be made to manage all forests under working plans ;
- canal banks, roadsides, railway tracks and waste lands should be brought under the new plantation programme ;
- the beneficial aspects of forestry should be given precedence over commercial motives ;
- timber harvesting techniques should be improved to reduce waste ;
- necessary powers should be given to control land-use under a coordinated program of soil conservation and land utilization in areas subject to or threatened with soil erosion ;
- habitat protection and improvement should be given priority to protect and conserve wildlife ;
- a properly constituted forest service of fully trained staff should be made responsible for the implementation of forest policy.

5-4 Forest policy of 1962

The final piece of forest legislation issued whilst Bangladesh remained a constituent of Pakistan was enunciated in letter number F.4-30/62-P4 from the Ministry of Agriculture and Works, Food and Agriculture Division, dated the 20th June 1962. The policy had five foci, namely, forestry, watershed management, farm forestry, range management, and soil conservation. Policy directives for range management and soil conservation were applicable to areas that are now in Pakistan. The 1962 forest policy emphasized the following :

- to manage forests intensively and as a commercial concern ;
- to improve utilization of forest products to reduce rotation, and promote regeneration so as to keep pace with increased harvesting ;
- to develop plantations in government-owned waste lands by transferring these to the jurisdiction of the FD ;
- to conserve soil on a priority basis in forests and private lands ;
- to conduct research on fast growing commercial spe cies for each ecological zone to encourage farm forestry ;
- to initiate pilot projects for the cultivation of trees on saline land and water logged areas.

5-5 Forest policy of 1979

The first national forest policy of Bangladesh was redefined in 1979 (Gazette Notification No. 1/For-1/77/345, 8 July 1979), eight years after independence. This forest policy received considerable input from the discussion in the first Bangladesh National Forestry Conference held in Dhaka in 1977 (Pant 1990). Important policy statements were as follows :

- forests shall be carefully preserved and scientifically managed for qualitative improvement ;
- all Government forests shall be designated as national forests and these forests shall not be used for any non-forestry purposes ;
- horizontal expansion of forests shall be made on the new land formation along the coastal belt and offshore areas, on the depleted hills of unclassified state forest land and on suitable khas (government owned fallow lands) of the country ;
- the tree wealth of the country shall be improved by large scale plantations conducted with mass participation ;
- optimum extraction and utilization of forest products shall be carried out to meet the requirements of the people and the country using modern technology ;
- measures to set up new forest based industries and to meet raw material requirements shall be adopted ;
- forestry research, education and training shall be organized to meet scientific, technological and administrative needs ;
- the forestry sector shall be organized to constitute a separate administrative unit of the government and relevant laws shall be updated for implementing forest policy ;
- effective measures shall be taken to ensure conservation of the natural environment and wildlife and for utilizing the recreational potential of forests ;
- mass motivation programmes shall be initiated and technical assistance extended to those interested in forestry.

5-6 Forest policy of 1994

Representing an amendment of the forest policy of 1979, current national forest policy was enacted in 1994 and officially announced on 31st May 1995 (Bangladesh Gazette, July 6, 1995, pp 241–244). The policy was formulated to initiate a 20-year Forestry Master Plan (FMP). The Government of Bangladesh, assisted by the Asian Development Bank and the United Nations Development Program, prepared the FMP to preserve and develop the nation's forest resources. The plan provides a framework for optimizing the forestry sector's ability to stabilize environmental conditions and assist economic and social development. As such, three imperatives were identified : sustainability, efficiency and people's participation (FMP 1994). These imperatives are in tune with Agenda 21 forest principles, adopted at the United Nations Conference on Environment and Development, held in Brazil in 1992 (Khan 2001).

5-6-1 Objectives of the 1994 National Forestry Policy

The main objectives of the 1994 National Forest Policy are :

- to afforest about 20% of the total area of the country by initiating various afforestation programmes in forest lands, fallow lands, lands not useful for agriculture, hinter lands and other possible areas to meet the basic needs of the present and future generations and to ensure greater contribution of the forestry sector to economic development ;
- to enrich biodiversity in the existing degraded forests by conserving the remaining natural habitats of birds and animals ;
- to strengthen agriculture by extending assistance to those sectors related with forest development, especially by conserving land and water resources ;
- to fulfill national responsibilities and commitments by implementing various efforts and government ratified agreements relating to global warming, desertification and the control of trade and commerce of wild birds and animals ;
- to prevent illegal occupation of forest lands, illegal tree felling and hunting of wild animals through the promotion of participation of local people ;
- to encourage effective use and utilization of forest products at various stages of processing ;
- to provide for and implement afforestation programmes on both public and private lands.

5-6-2 Statements of the 1994 National Forestry Policy

The policy statements which are most relevant to participatory forestry are as follows :

- community forestry and socially oriented leasehold forestry will be promoted by giving priority to poorer communities and poorer members of the community in the allocation of leasehold contracts ;
- women and poor people who do not have a land-based source of livelihood will be employed on a priority basis in nurseries, plantations, forest management, harvesting and industrial work ;
- tree growing by communities, local groups or individual families on roadsides, windbreaks, canal/river banks and other public or marginal lands will be promoted through NGOs and relevant state agencies ;
- plantations on farms and private lands will be managed according to the priorities set by their owners or duly authorized tree growers ;
- buffer zones attached to protected areas may be allocated for tree farming and agroforestry on a long term lease basis ;
- the State will provide technical assistance and fina ncial support to promote all forms of homestead forestry ;
- industries located in rural areas, particularly those cottage and small scale labour intensive industries which contribute to the local economy and process wood and other forest based raw materials, will be promoted by the State ;
- the funds to be made available through international development assistance will be increasingly directed to support involvement of tree farmers and other producers in reforestation and forest and tree-based rural development ;
- the FD is responsible for protection and management of the national forests but in areas under high demand the needs of local people will be accommodated through participatory management ;
- the traditional rights of people living within and adjacent to designated forest areas will be maintained and their forest-related cultural values and religious beliefs will be respected ;
- the State shall modify land-use, agricultural, industrial, trade, fiscal and other policies and related legislation in order to discourage deforestation and promote farm forestry ;
- the FD will be re-structured and strengthened to support social forestry.

6 Trends in forest policy related to local participation

The historical development and evolution of public forest policy and practice in the Indian sub-continent (including Bangladesh) manifest two interrelated trends : i) state-sponsored commercialization of forestry and ii) progressive alienation of forest based communities from forest use and management (Khan 2001). British India's first forest policy was enunciated in 1894, which laid down public benefit as the sole objective of management of public forests. It also made clear that "royalties for the Government must be collected for various facilities enjoyed by people" (Rahman 1993). These facilities included limited concessions for pasturage and fuel wood collection. Rahman argues that "the main aim ... was to collect revenue and to satisfy the local population by granting so-called rights and concessions" (Rahman 1993). Forestry was considered an obstacle to agricultural development and, as such, it was proposed that the demand for cultivable land would be met, to some extent, by clearance of forested areas, thus giving preference to agriculture over forestry. This gave renewed impetus to the process of land clearing that had long been active in Bengal, causing considerable deforestation (Khan 2001). At the same time, there was no attempt to improve forest management in general.

The independence of India and the formation of Pakistan in 1947 brought about little change in the nature of forest use and management. The Pakistani period (1947-1971) was both the outcome and a continuation of the colonial rule, and exhibited similar characteristics (Khan 2001). The period witnessed the formation of two forest policies. Though apparently devised to cater to the needs of the newly independent nation, the forest policy of 1955 manifested all the characteristics of the colonial administration, including the expansion of state territories ; extraction of timber ; fortification of bureaucracy by increasing training and manpower ; and managing all forests through rigid departmental plans (Hussain 1992). A revised policy launched in 1962 stated that : "..the management of forests shall be intensified as a commercial concern. ..utilization of forest products is to be improved... and regeneration speeded up to keep pace with increased harvesting. ..irrigated plantations primarily for the production of industrial wood are to be developed ..and timber harvesting in Chittagong and Sunderbans is to be accelerated.."

Thus the exclusion of the public from government policy-making and procedure, an emphasis on maximum economic return from forest assets, state patronization of forest-based industries, and maximum exploitation and expansion of state proprietorship over forests were the main features of forest policy during this period. Local rights and demands remained ignored as before.

Bangladesh surfaced as a sovereign state on the global map in 1971 following a historic civil war of independence. The first forest policy under independent rule was announced in 1979. In this policy, forestry as a sector of the economy was viewed as a government affair, despite the fact that some 70 per cent of all forest products originated on lands outside the control of the FD (Millat-e-Mustafa 1996). Several crucial aspects received little or inadequate mention, including : functional classification and use of forest lands ; the role of forests as the biological foundation of sustained natural productivity ; com-

munity participation ; the role of the private sector ; processing and utilization of forest products ; the organization of forest-based growth centres ; enterprise development ; rural energy needs ; involvement of voluntary organizations ; the importance of non-wood forest products ; and forestry extension. Thus rural forestry and local people were paid no particular attention, except in the form of a vague call for a "mass motivational drive for tree planting". In fact, the policy "expressed the views of the traditional foresters, overlooking the overall development strategy" (Roy 1987), and was hardly adequate for addressing the current needs and crises of the forestry sector (Task Force 1991).

In contrast, the current policy enacted in 1994 represents an initial move in the right direction. It does so by considering commitments to some of the issues which are considered vital for a people-oriented forest policy, such as sustainable development, poverty alleviation, local people's participation in forest protection and government support for the involvement of a broader sector of society in forestry development (Khan 2001). Examination of the current national forest policy reveals the following major features : i) a commitment to sustainable development ("meeting the basic needs of the present and future generations") ; ii) the integration of forestry into a broader framework of rural development and poverty alleviation ("by creating employment opportunities, strengthening the rural and national economy and encouraging labor intensive forest-based cottage industries, the scope for poverty alleviation and forest based rural development sectors will be extended") ; iii) the participation of local people in forest protection, especially in curbing "illegal occupation of forest lands, illegal tree felling and hunting of wild animals", replaces an outdated reliance upon state force ; iv) a recognition of the importance of women's participation in land-based production systems, particularly in homestead and farm forestry and participatory afforestation programmes ; and v) governmental support and encouragement for all forms of public and private afforestation programs, especially on rural homesteads and institutional premises.

7 Conclusion

The establishment of a forest policy in Bangladesh dates back to the colonial period of rule, with the first forest policy in Bangladesh being enacted by the British in 1894. The policy was modified in 1955, 1962, 1979, and later in 1994. Throughout the colonial era (up to 1947), forest policy has been oriented towards the commercial considerations of revenue generation and maximum resource exploitation. Forest policy established under Pakistani rule (in 1955 and 1962) showed a high degree of continuity with its colonial heritage and maintained an emphasis on commercial and industrial interests. This process of commercialization continued after the independence of Bangladesh in 1971 as the first national forest policy of Bangladesh enacted in 1979 failed to address the issue of broader participation in forest management. The negative social impacts of this excessive, government-sponsored commercialization of forest interests include the systematic alienation of local communities from forests and forestry, a disregard for local livelihood needs and the progressive diminution of traditional rights. However, the current forest policy is a significant move towards people-oriented forestry and shows the government's determination to protect and develop forest resources through people's participation.

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Analyzing Participatory Trends in Nepal's Community Forestry

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Abstract: This paper discusses recent trends in Nepal's forest management in terms of the nation's historical background, legislation, administration and institutional policy. The changes that have occurred in terms of policy objectives, planning and priorities are also discussed, and an analysis of trends relating to local participation is presented. Prior to the 1950s, the forests of Nepal were used and managed by their *de facto* owners, Rana Rulers and their families, who had sole authority over three quarters of Nepal's forest area. Except for the National Code which outlined standards for the protection and utilization of forests, no formal forest policy existed - the enactment of the Private Forest Nationalization Policy in 1957 marked the beginning of a forest policy in Nepal. However, this policy resulted in the destruction of vast tracts of valuable forest land as the government sought to generate revenue for the state, expand agriculture, implement resettlement programmes and develop the nation's physical infrastructure following forest liquidation. Despite the promulgation of numerous additions and revisions to national forest policy, deforestation continued apace. The National Forest Policy, 1976 attempted to rationalise the development and management of forests, though efforts to inhibit forest destruction were largely unsuccessful. Subsequently, policy issued in 1978 advocated the hand-over of forests to local political and administrative units for protection and management. However, such political attempts to improve forest management were socially unpopular and failed to abate nationwide forest destruction. In 1989, a Master Plan for the Forestry Sector (MPFS) - a long-term planning and policy document - was issued for the sustainable management, utilization and protection of forests. The Forest Act, 1993 and its Regulation, 1995, which are currently in practice, have legally endorsed the MPFS. The Master Plan policy has divided Nepal's forests into six categories, of which community forests and their participatory management have been identified as priority areas for contemporary endeavor in forest management.

Key words: community forestry, participation, user groups, forest policy.

1 Introduction

In recent years, many countries have begun to devolve natural resource management authority to local communities. Nepal has been at the forefront of this policy shift, moving away from the centralized approach that was in place during the early 1960s. This trajectory of policy development, increasingly recognizing the roles and rights of local communities, is of interest to many researchers and policy makers. Trends in participatory policy development in Nepal's forestry sector have therefore been analyzed and discussed with reference to various contextual factors and consequences.

This paper analyzes recent trends in Nepal's forest policies, focusing on the participation of local communities in forest management. Specifically, policy trends are analyzed in relation to various aspects of policy development, including long-term national policies, five-year development plans, legislation and government institutional structure. This paper is the result of collaboration between ForestAction Nepal, the Ministry of Forests and Soil Conservation, Nepal, and Forest Conservation Project, Institute for Global Environmental Strategies, Japan.

2 General background of the forestry sector in Nepal

The total land area of Nepal is 14.7 million hectares, of which arable land accounts for about 2.35 million hectares. The estimated population of the country is about 20 million people, with the average household size being 7.5 members. Over half of the population lives in the hill and mountain regions of the country and the population growth rate stands at around 2.1 per cent per annum. About 80 per cent of the total population of Nepal depends on farming for subsistence. Agriculture, livestock farming and forestry are the integral components of the Nepalese farming system.

Administratively, Nepal is divided into 75 districts of which 20 districts are in the Terai, 39 districts are in the Hills and 16 districts are in the Mountains.

The share of agriculture, forestry and fisheries in Gross Domestic Product (GDP) is about 60 per cent ; forestry alone contributes about 15 per cent. Furthermore, 42 per cent of the livestock feed and 75 per cent of the main energy resources are derived from forest resources. The average private land holding is 0.39 hectares. Three quarters of the total arable land are composed of upland terrace, with the remainder being distributed in valleys and throughout the Terai.

Poverty is more severe in rural than in urban areas. The majority of the poor in Nepal are small scale and marginal farmers from landless households, whose livelihoods depend on agriculture dominated by crop and livestock farming. Rural households are, therefore, at the centre of the forest, agriculture and livestock interface (HMG 1998).

2.1 Importance of forests for livelihood

Forests in Nepal have been regarded as an important renewable natural resource base for fulfillment of the

basic needs of local people. The importance of the contribution of forest resources to the Nepalese economy is well understood and has been emphasized throughout the nation's history. Forests are of great significance and have a wide range of values to local people and to the country's economy. Forests have been considered as an essential means of sustaining people's social, economic and cultural livelihood. Forests not only support the timber needs of rural people, but also play a vital role in supplying other primary requirements for the Nepalese population.

More than 75 per cent of all households and 96 per cent of rural households use wood for domestic purposes, and almost all rural households raise some domestic livestock and feed them fodder and grasses obtained mainly from forests (Hobley 1996).

2.2 Forest management strategies

In order to develop its forest management strategies, the government has classified the forests of Nepal into five main categories : National Forests, Community Forests, Leasehold Forests, Private Forests and Protected or Religious Forests. National forests are owned and managed by the government and are of high economic and national importance. Community forests are a component of national forests managed by Community Forest User Groups (CFUGs) ; most of these forests are degraded or have been recently planted by the government or by local communities. Leasehold forests also form part of national forests and are leased out to communities or to groups of people below the poverty line, or to any organization that promotes forest development and environmental protection. Private forests are those planted, nurtured or conserved on any privately owned land by an individual or private institution. Religious forests are national forests nurtured or traditionally conserved by a religious body, group or community primarily for religious purposes. Apart from private forests, land ownership for all forests types lies with the government.

Overall management and administrative responsibilities pertaining to forest resources in Nepal are the jurisdiction of the Ministry of Forests and Soil Conservation (MFSC) under His Majesty's Government (HMG). The duties of the ministry comprise five inter-related services for forest resource management. These are : forest management and development ; parks and wildlife management ; soil conservation and watershed management ; forest research and survey ; and plant resource development. These management services and responsibilities are implemented throughout the country through five Forest Regional Directorates, five Departments and four Parastatal Organizations as defined under the MFSC. The five departments are : Department of Forests ; Department of National Parks and Wildlife Conservation ; Department of Soil Conservation and Watershed Management ; Department of Forest Research and Survey ; and Department of Plant Resource. The four Parastatal organizations are : The Timber Corporation of Nepal, Forest products Development Board, Nepal Rosin and Turpentine Company Limited and the Herbs Production and Processing Company Limited.

With the expansion of the community forestry programme, many non-governmental institutions ranging from professional service providers in the field of research and programme implementation, to networks of forest users and advocacy groups have recently emerged. The participatory policy environment has thus opened the field for a range of stakeholders to exercise their rights, facilitate innovations and cater to escalating demand for community forestry services.

2.3 Changes in forest area and condition

There has been a sharp decline in both the area and density of forests in Nepal. At present, forests in Nepal represent about 39.6 per cent of the total land area, of which 10.6 per cent is comprised of degraded forest and scrubland. The annual rate of deforestation is estimated at about 1.7 per cent. The changing pattern of forest cover over the past 50 years is given in Table 1.

3 Trends in overall government forest policy and planning

3.1 Overview

Nepal has a long history of government regulation of forests. Prior to 1950, forests were under the aegis of the Rana Rulers who distributed land to their families and followers and managed forests primarily for the production of timber and as grounds for recreational hunting. The National Code for the protection and utilization of forests that was developed during this period served as the principal policy instrument until the fall of the Rana in 1951. Under this Code, district forestry offices were established and regulatory responsibilities over forest protection and utilization were devolved to local administrators. In addition, indigenous forest management systems and traditional communal rights to forest use

Table 1 Change in forest area, 1954–1994 (source : CBS 2000).

	Vegetation cover as % of total land area					
	1954	1964	1977	1978/79	1985/1986	1994
Forest	-	-	-	38	37.4	29
Scrub	-	-	-	4.7	4.8	10.6
Total	47.6	45.6	35.7	42.7	42.2	39.6

were officially recognised.

However, successive shifts in policy and frequent changes in leadership conspired to create an unstable environment for forest management. As a result of inappropriate planning and a lack of clarity in long-term policy goals, forests suffered widespread degradation and exploitation at the hands of the political elite. The lush green forests of Nepal were considered a prime source of capital, and in an attempt to boost the country's economy and generate state revenue, the government issued a string of haphazard decisions, exhausting forest resources in many areas.

In 1927, the Rana government introduced plans which opened the forests in the Terai and Siwalik regions for exploitation. The high quality timber harvested here (particularly that of *Shorea rubusta*) formed the basis for a flourishing export market with India. Indeed, the primary objective of forest management plans put into operation in many districts of the Terai was to meet Indian demand particularly for the production of railway sleepers. The timber also traded well within Nepal itself and later became popular elsewhere in South Asia. Additional government policy promoted the expansion of agricultural land, the development of national infrastructure and the implementation of resettlement programmes at the cost of natural forest in the Terai. Such unpopular, revenue-oriented policies are considered the primary cause of deforestation in Nepal (Joshi 1989). Nonetheless, efforts to actively reverse trends in forest loss began in 1979 only after vast tracts of forest had been liquidated. Approximately half a million hectares of forest were cleared and a further 1.05 million degraded in the Terai and Siwalik regions within the 15 year period from 1963 to 1978. Government revenue earned in the forestry sector was highest in the period up to 1970 as a result of steady trade with India (Bajracharya 1993).

The practice of clearly defining goals and objectives in the development of forestry policy came to the fore after the fall of the Rana Regime. The need for institutional expansion, development of human resources, inventory and assessment of the resource and the formulation of rules and regulations for development of the forestry sector was recognised. However, due to political unrest, lack of commitment and ineffective leadership, many of these objectives remained unaddressed.

3.2 Forestry policies under five-year development plans

Planning of development strategies started for the first time in Nepal when the National Planning Commission was established in 1955. The concept of five-year national plans issued successively to administer development activities in a planned and systematic manner was introduced ; the First Plan (1956–61) was drafted in 1956. The development objectives of the first plan were primarily focused on agricultural production, expansion of transportation and communications, employment, social development and resettlement of people from the Hills and Mountains to the Terai. Policy change in the forestry sector focused on the expansion and development of forest organizations, the forest service and human resources, implementation of forestry activities such as forest surveys and research programmes, afforestation, gazetting of forests and the construction of forest roads, fire lines and buildings, in some of the Terai districts (Pant 1965).

The objectives of the Second Plan (1961–65) were also primarily geared towards agricultural development and resettlement of people migrating from the Hills and Mountains to the Terai. With regard to the forestry sector, however, priority was given to the scientific management and conservation of forests, the inventory of forest resources, forest research, human resource development and implementation of forestry development activities in the field. Implementation of this policy was designed to mobilize people's participation via the *Panchayat* system while promoting forestry development activities in the field (NPCL 1963). However, due to lack of government commitment and an absence of strong and effective policy directives for the conservation and management of forests, the functional changes that occurred with regard to these development goals were minimal.

The Third Plan (1965–70) also aimed at the strengthening and expansion of forestry infrastructure by providing forest services in all 75 districts of Nepal. The policy objectives emphasized public involvement in afforestation as well as extension and education in order to increase public awareness of the importance of forest resources. During this period, the development of a 'bottom-up' approach to forest management began with the aim of involving local people and field level forestry staff in the planning process. Some forestry development activities, including botanical surveys and wildlife conservation were also initiated. The resettlement of migrating people also continued. Though the Third Plan period made some effort to improve forest conservation and management strategies, significant results were not realised because of the absence of regulations and a comprehensive forest act (NPCL 1965).

The Fourth Plan's (1970–1975) overall objectives were population control, trade, agricultural production and social and economic development. Although the plan did not prioritize forest development per se, various issues relating to the development of forest policy were addressed under the agricultural policy. In particular, soil conservation, watershed management and forest resource development were identified as key areas for activity in order to maximise benefits to local people (NPCL 1972). In addition, institutional reform and human resource development in the forestry sector continued. The forest-based industries were promoted under plans to enhance the nation's power and energy infrastructure and measures introduced for the develop-

ment of tourism emphasized the need for expansion of national parks and reserves.

The forestry sector also received priority attention under plans for regional development. A 'bottom-up' planning process was developed and public involvement was encouraged under the *Panchayat* system during this plan period. In line with these policy objectives, forest demarcation, construction of forest roads and fire lines, soil conservation and wildlife management activities, afforestation, forest survey, inventory and research and training were also undertaken.

This Fifth Plan (1975–1980) was not promising in terms of government commitment to the forestry sector. The plan's overall objectives focused on resettlement of displaced people and agricultural development. Plans for forestry development were subsumed within the policy issued for agricultural development. Priority was also given to population control, the generation of employment and scientific land-use planning. Despite this, the following forestry-related policy objectives were developed (HMG 1975) :

- To integrate development of livestock, horticulture and food and cash crops in the Mountains, Hills and the Terai, respectively.
- To promote the socio-economic development of local people through the management of forest resources.
- To formulate basic guidelines for the collection of information and data necessary for natural resource management.

Based on the above policy objectives, forest demarcation, reforestation, training and extension, forest survey and research, soil conservation and watershed management, development of medicinal plant programmes and wildlife management were considered as key forestry activities.

The Sixth Plan (1980–85) was a promising period in terms of government policy objectives in the forestry sector. This plan period was, in fact, a cornerstone for the conservation and development policy of natural resources at a national level. The following were the general policy objectives enunciated by the government (HMG 1981) :

- To alleviate poverty through the management of natural resources.
- To fulfill the basic needs of the people through the management of natural resources.
- To provide social justice.

Based on these broad policy objectives, various programmes in forest management (including forest demarcation, forest survey, forest research and inventory, forest training and extension, management of medicinal plants, resettlement, watershed management and wildlife management) were designed and implemented. However, top priority was still given to the agricultural sector. Major conservation programmes were based on soil conservation and afforestation. Policy for institutional expansion in the forestry sector also continued (Bajracharya 1993).

Under the Seventh Plan (1985–90), objectives focused on ensuring that forest resources were able to meet the basic needs of the people by maintaining and restoring ecological balance. Particular emphasis was placed on people's participation in afforestation, watershed management and the promotion of medicinal herbs. The need for 'bottom up' planning and a participatory approach to implementation were highlighted in the policy (HMG 1984). The Master Plan for the Forestry Sector (MPFS), a long-term policy instrument for the forestry sector, was prepared and officially approved in 1989. Similarly, various guidelines and strategies were developed for the implementation of forest management, though the accelerated degradation of forest resources in the Hills and Terai proved difficult to reverse because of a lack of public support, a sound monitoring system and an effective regulatory mechanism. The policy objectives of this plan period were (HMG 1984) :

- To increase forest resources by converting unproductive forest areas into productive land through scientific forest management, including massive afforestation and forest protection programmes.
- To increase the level of involvement of rural communities in forest management activities.
- To develop labour intensive programmes for the generation of employment opportunities.
- To establish sound monitoring and evaluation systems.
- To continue the expansion of national parks and reserves and related programmes throughout the country.
- To develop pasture, fodder and processing and marketing facilities in the high Mountains, Hills and Terai respectively.
- To control soil erosion and enhance watershed management programmes in critical watershed areas.

The Eighth Plan period (1992–97) was considered a turning point in the management history of the forestry sector of Nepal. The major breakthrough in this plan period was the full-scale adoption of the MPFS, 1989, as well as the expansion of participatory forestry via the establishment of CFUGs for community management of forests. The key policy objectives of this plan period were (HMG 1992) :

- To mobilize people's participation in community forestry though the establishment of FUGs.
- To strengthen the private sector and promote a leasehold forestry programme to the deprived sections of society in order to increase employment opportunities in forestry.
- To initiate partnership with local governments in national forest management.
- To generate a collaborative and participatory environment for the involvement of local people in

forest management.
- To encourage public participation in soil conservation and watershed management programmes.

The policy objectives of the Ninth Plan (1997–2002) were primarily related to poverty reduction and increased productivity and employment in the forestry sector. The policy objectives and priorities were as follows (HMG 1997) :

- To strengthen the institutional capacity of CFUGs and monitor the supply of forest products for the fulfillment of daily requirements.
- To develop appropriate policy to encourage the private sector to participate in the management of forest resources.
- To develop the forest-based industries with emphasis on the generation of employment opportunities and the enhancement and simplification of supply systems for improved distribution of raw materials and value-added products.
- To formulate clear-cut guidelines in order to resolve problems relating to leasehold forests and to promote them among poor and deprived people.
- To enhance biodiversity and eco-tourism and safeguard migratory wildlife and their habitats.
- To foster research on endangered medicinal herbs and their commercial farming to generate employment opportunities.
- To implement soil conservation and watershed management programmes based on public participation, to protect the Siwalik region from erosion and landslides.
- To encourage the cultivation of pasture and horticultural and cash crops in afforestation programmes.

4 Trends in forest policies and legislation

4.1 Key forest policies in the past

4.1.1 Private Forest Nationalization Policy, 1957

The Private Forest Nationalization Policy, 1957 instituted the nationalization of all private forests on the grounds that forests form a component of Nepal's national wealth, and as such need to be protected, managed and utilized for national security and public welfare. This policy was formulated with a view to consolidate all national property, which, to a large extent, had been abused in the past under the private management of politically motivated dignitaries and members of the royal family. However, the policy became unpopular amongst the public since it undermined the rights of indigenous people who had been managing, protecting and utilizing local forest resources according to traditional systems for their sustenance.

4.1.2 Forest Policy, 1961

Under the Forest Policy of 1961, efforts were made for the protection, management and utilization of forests for the improved economic welfare of the people and the country. National forests were demarcated and consolidated, and those forest users found to be violating state rules for forest management were punishable by law. Based on this policy, Nepal's first forest act, the Forest Act of 1961, was promulgated and enacted. However, the effectiveness of this policy on the ground was limited as the government pursued its plans for the resettlement of people in the Terai, exploitation of natural forests to generate revenue, the expansion of agriculture and the development of national infrastructure, which collectively conflicted with the aims of environmental protection and improved forest management.

4.1.3 Special Forest Policy, 1967

This policy was issued for the protection of forests and the promotion of better forest management. Based on this policy, the Forest Protection Act of 1967 with special arrangements for forest protection was promulgated. Under this Act, all forest offences including forest encroachment were to be treated as a state crime. Upon encountering offenders, District Forest Officers (DFO) and other forest personnel were authorized to intervene and confiscate all goods and equipment, and to adjudicate over the misdemeanour and charge incurred. However, this devolved authority was simply abused by local authorities as an opportunity to earn money by manipulating the supply of forest resources to needy organizations and the public, thus provoking discontent amongst local forest users. Subsequent amendments to this policy were made in an attempt to synthesize a more people-friendly tool for forest management.

4.1.4 National Park and Wildlife Policy, 1972

This policy was formulated for the conservation and protection of wildlife and gave rise to the National Park and Wildlife Act, 1972 to safeguard against illegal hunting, poaching and trading ; some national parks and wildlife reserves were created as a result. However, this policy failed to differentiate clearly between the authorities assigned to the various entities responsible for its enforcement throughout the country. The resulting overlap of power between the DFO, the Royal Nepal Army and the various personnel of the national parks service, led to conflict and inefficiency. Because of this, several amendments were made to the policy in subsequent years.

4.1.5 Soil and Water Conservation Policy, 1982

This policy was enunciated in order to reduce the occurrence of soil erosion and landslides, and mitigate the watershed degradation process. The Soil Conservation and Watershed Management Act, 1982 was promulgated to declare protected watersheds in critical areas of the country and prompted the implementation of soil conservation and watershed management activities in the districts.

4.1.6 National Forest Policy, 1976

Prior to 1976, several attempts were made to introduce forest policies and management strategies in the coun-

try. However, because of a lack of sound institutional and administration infrastructure, a dearth of trained forestry professionals and inadequate commitment on the part of the ruling government, these measures failed to deliver any marked improvement in the management of Nepal's forests. In response, the National Planning Commission (NPC) introduced the National Forest Policy of 1976 to institute scientific forest management systems throughout the country. The policy objectives were : to ensure the supply of forest products to meet the basic need for timber, fuel wood and fodder ; to maintain and restore ecological balance through reforestation and watershed management programmes ; and to derive maximum economic gain from utilization of forest products by promoting the export of medicinal herbs. The policy statements issued under the National Forest Policy of 1976 were as follows (Bajracharya 1993) :

- To maintain ecological balance through the management of forests and to control floods, landslides and erosion.
- To meet the timber, fuel wood and fodder needs of the people.
- To protect and conserve wildlife and strengthen their management systems through the expansion and establishment of national parks and wildlife reserves.
- To mobilize forest resources for sustained economic growth, strengthen the forest-based industries and promote the export of value-added forest products.
- To maintain coordination with other relevant sectors such as agriculture, settlement, pasture and other land uses.
- To promote reforestation for the rehabilitation of barren and degraded forest land and river banks.
- To adopt a scientific approach to forest management and to expand forest organizations throughout the country in order to provide forest resource benefits to all people on the basis of multiple use forests and geographical and social priorities.
- To publicise the impact of forestry on national development and seek public cooperation and participation in the use and management of forests.
- To conduct forest surveys, inventories and research on various aspects of forest resources.
- To develop human resources within the forestry sector.
- To adopt a labour intensive forest management programme in order to generate employment opportunities.
- To incorporate an economic perspective in forest management by considering not only the direct financial aspects in particular, but also other socio-economic aspects in general.

4.1.7 National Policy on Panchayat Forests and Panchayat Protected Forests, 1978

Due to the substantial loss of forest area in the past, the government enacted the Panchayat Forests (PF) and the Panchayat Protected Forests (PPF) Regulations in 1978 to devolve forest management authority to the community level. The *Panchayat* or Village Panchayat is a political and administrative unit which operates at the village level. Areas of national forest handed over to *Panchayat* for the development of plantations have been termed Panchayat Forests (PF), whereas those areas of national forest handed over to *Panchayat* for their protection and management became known as Panchayat Protected Forests (PPF). The main thrust of the *Panchayat*-based forest policies has been to delegate the responsibilities of management of village forests and woodlots to the political and administration units of a village. Based on this policy, the forests of Nepal were classified into Panchayat Forests, Panchayat Protected Forests, Religious Forests, Leasehold Forests and Private Forests. The key features of this policy are outlined below (based on Bajracharya 1993).

Panchayat Forests (PF) :

- Any area of barren land or degraded national forest is to be handed over to the Village Panchayat as a Panchayat Forest.
- The area handed over as a Panchayat Forest should not exceed 136 hectares in the Terai or 130 hectares in other parts of the country for one Village Panchayat at one time.
- Development of plantations in the Panchayat Forest is to commence within 3 years of the transfer of the land.
- District Forest Officers (DFO) are to provide free seeds and seedlings to the Village Pahchayat for plantation development.
- The Village Panchayat is to take overall responsibility for the conservation, protection, management and improvement of Panchayat Forests.
- The Village Panchayat is to follow a Work Plan prepared by the DFO and the guidelines and directives provided by the government.
- The Village Panchayat has the right to sell and distribute forest products to local members of the Panchayat.
- Income earned from the Panchayat Forest is to be deposited in a Panchayat fund and 50 per cent of the fund is to be used for protection, plantation and improvement of the Panchayat Forest.

Panchayat Protected Forests (PPF)

- Any part of a national forest may be handed over to the Village Panchayat as a PPF for its protection and management.
- The forest area allocated to a single Village Panchayat should not exceed 272 hectares in the Terai or 520 hectares in other parts of the country at any one time.

- The DFO shall provide free seeds and seedlings where enrichment planting is needed to improve the condition of the forest.
- The Panchayat is to take overall responsibility for the protection, conservation and management of the PPF under the supervision of the DFO.
- The Village Panchayat is to carry out all the forest operations according to the Work Plan prepared by the DFO and follow the instructions and directives issued by the government.
- Local people are allowed to collect grass, fodder, medicinal plants and fuel wood free of cost as prescribed in the Work Plan.
- 70 per cent of the total income from the sales of forest products is to be provided to the Panchayat as a grant to develop the condition of the forest.

Participatory forest management under the PF and PPF scheme came into practice in the early 1970s and was legally endorsed by the Forest Act of 1978. Following the implementation of this Act, a new era in forest management was hailed as the active participation of local communities in the utilization, protection and management of forests was officially instituted. However, this "state sponsored participatory forest policy" made no provision for the inclusion of local stakeholders and users in the decision-making and planning process. Thus the PF- and PPF-based participatory forestry programme was limited in its capacity to reach out to communities and local beneficiary groups at a grass root levels (Joshi & Pokhrel 1998).

Moreover, the PF and PPF policies were focused more on political and administrative management at the village and district level, than on traditional and indigenous rights and local customary practices. As a result, the policy provoked antagonism and dispute. Conflicts between and among local users, local politicians and foresters arose and the forest resource itself suffered abuse and mismanagement.

4.2 Current forest policy

4.2.1 The Master Plan Policy for the Forestry Sector (MPFS), 1989

The Master Plan for the Forestry Sector, prepared in 1988 and approved by the government in 1989, is a far-reaching policy document for the development of the forestry sector in Nepal. Formulation of this policy document was a turning point in the history of Nepalese forest management. This long-range forest policy document was prepared with a view to manage the forests of all categories on a sustainable, integrated and programme-oriented basis throughout the country. It has six primary and six supportive programmes for the development and management of all kind of forests, giving high priority to community forest by adopting a participatory approach to management utilizing community forest users' groups. Based on the recommendations of the MPFS, a national forest policy was comprehensively set forth under the Forest Act of 1993. The MPFS and Forest Act, 1993 reclassified national forests into the following subgroups : Government Managed Forests, Community Forests, Leasehold forests, Private Forests and Religious forests. Government Managed Forests incorporate all national forests directly managed by the government. Community forests, a component of national forests, are entrusted to community users groups for management and sustainable utilization. Leasehold forests are also a part of national forests and are leased by the government to people living below the poverty line, forest-based businesses operating at the industry level and to groups promoting eco-tourism and protection of the environment. The long-term and medium-term objectives of the MPFS are given below (HMG 1989) :

i) Long-term objectives
   - To meet the people's basic needs for forest products on a sustainable basis.
   - To conserve ecosystems and genetic resources.
   - To protect land against degradation and maintain ecological balance.
   - To contribute to local and national economic growth.

ii) Medium-term objectives
   - To promote local participation in forest management, development and conservation.
   - To strengthen the forest organization framework and develop the institutions of the forestry sector.
   - To develop the legal framework needed for sustainable development, management and conservation of forests.

The MPFS, 1989 has focused on six primary and six supportive programmes. They are :

i) Primary programmes
   - Community and Private Forestry
   - National and Leasehold Forestry
   - Wood-based Industries
   - Medicinal and Aromatic Plants
   - Soil conservation and Watershed Management
   - Conservation of Ecosystems and Genetic Resources

ii) Supportive programmes
   - Policy and Legal Reform
   - Institutional Reform
   - Human resource development
   - Research and Extension
   - Forest Resource Information System and Management Planning
   - Monitoring and Evaluation.

The principal strategies of the MPFS are based on the following elements (HMG 1989) :

- Production/Utilization
  - The forests will be managed and utilized to meet the basic needs of local people for forest products.
  - Following thorough economic analysis, wood supply to urban areas will be intensified through

the promotion of commercial plantations on private forest land.

- Participation
  - Village forests will be managed through a participatory planning and decision-making process.
  - Forest users' groups will be established and supported for the management of forests.
- Conservation of Ecosystem/Genetic Resources
  - Land and forest resources will be managed and utilized in order to maintain and conserve ecology, biological diversity and genetic resources. Unique ecosystems of specific conservation value will be protected. Environmental Impact Assessment will be undertaken where development projects are implemented.
- Social Aspects of Land Use
  - The principles of decentralization and participation will be applied in management of forests.
  - People living below the poverty line, small-scale farmers and the forest-based industries will be encouraged to sustainably manage excess forest resources. No forest will be converted for agricultural or cultivation purposes.- Integrated farming systems and land use practices that emphasize multiple uses will be implemented for the development of integrated approaches to soil conservation and watershed management, research, extension, agro-forestry and other related activities.
- Role of Private Sector
  - The establishment of private forests on leased and private land will be promoted.
  - Parastatals will be required to compete with private enterprises on an equal footing.
  - The government will provide land on a lease basis for the development of resources for forest-based enterprises. New enterprises are to be established only after an industrial plan and economic appraisal (financial analysis of the acquisition of raw materials), have been approved by the government.

4.2.2 Proposed Forest Policy for the Tenth Plan Period (2002–2007)

Policy introduced under the tenth Five Year Plan focuses primarily on the contributions forestry can make to the reduction of poverty, ecosystem level forest management, biodiversity conservation and enhanced land productivity. Thus the broad objectives of the plan are sustained efforts for the reduction of poverty through a participatory approach to forest management, nationwide biodiversity conservation, the enhancement of forest production and the creation of employment. The specific objectives of the plan are outlined here (MFSC 1992) :

- To increase the average income of poor women and other disadvantaged groups of society through the implementation of participatory forest programmes for the generation of employment and the reduction of poverty.
- To introduce integrated forest management systems in government managed, community and leasehold forests.
- To carry out studies and surveys on Non Timber Forest Products (NTFPs) and thereby widen the scope for their production and utilization.
- To expand community forestry into buffer zones and protect and expand biodiversity resource management based on landscape level planning and management concepts.
- To expand soil conservation and watershed management activities in order to conserve ground water resources, increase land productivity and maintain soil fertility in the Churia region.
- To continue to upgrade and improve management policy and organization within the forestry sector and strengthen the legal status of existing policy relating to forest management.

Primary foci for activity as proposed under the Tenth Plan are :

- Community and private forests
- National and leasehold forests
- Medicinal herbs and NTFPs
- Soil conservation and watershed management
- Biodiversity and genetic resource conservation and development
- Forests research and extension
- Human resource development
- Policy and legal improvements
- Institutional improvement and development
- Gender equity
- Monitoring and evaluation

Sectoral objectives relating to forests defined in the Tenth Five-Year Plan are :

- To increase public participation in soil conservation and watershed management programmes, particularly in the Churia region.
- To increase the opportunities available to people living below the poverty line for livelihood improvement by expanding the leasehold forestry programme and widening the scope of its activities.
- To increase the level of participation of the poor, deprived, women and other disadvantaged groups in the community and enhance their access to benefits through the promotion of leasehold and collaborative forest management.
- To bring forestry into the mainstream of economic growth by developing forests and forest-based enterprises, and to emphasize the value of ecotourism through the careful management of protected areas, wildlife and plant resources.
- To implement a scientific approach to forest management in national forests managed by the government.

- To protect biodiversity and genetic resources, and manage, utilize and promote the export of economically valuable NTFPs.
- To employ sustainable management practices in the utilization of forest products and other special plant resources, and mobilize private sector investment for the encouragement of entrepreneurship in the natural resource sector.

4.2.3 Community Forest Policy, 1991

After the restoration of democracy in 1990, a community-based forest policy centred around the concept of Forest Users Groups (FUGs) formally emerged in 1991. Here, the term community forest refers to a system of forest management in which the user groups exercise their usufruct rights over national forests under an approved operational plan and within the guidelines issued by the government. The ownership of such forest lands remains with the government, which retains the authority to suspend the rights of user groups if they fail to perform according to the approved operational plan and guidelines (Joshi 1998).

Community forestry in Nepal has been considered a high priority by the government, and the Community Forest Policy, issued in 1991, is considered to be largely successful in bringing about its implementation. This policy aims at the management and development of forests in order to meet the people's basic needs for forest products through the active participation of local people.

The Community Forest Policy, 1991 was formally introduced in Nepal with a view to fulfilling the following basic objectives (Joshi 1998) :

- Realization of sustainable forest management at the local level.
- Whole scale promotion of public participation in forest management and the conversion of this into local action.
- Implementation of planning at a grass-roots level for a bottom-up approach to decision-making.
- Delivery of the basic needs to local people.
- Ensuring community-level institutional capacity building for empowered local forest management.
- Achievement of the efficient and sustainable use of local forests.
- Achievement of self-sustaining forest management.
- Increased usage of local resources and knowledge.
- Enhanced collaboration between the government and local people.

Community forestry in Nepal represents a unique example of how FUGs can collectively organize and execute the management of local forests. Furthermore, community forest policy in Nepal is widely recognized as one of the best examples of local empowerment and participation for development of the forest resource. The key directives of the Community Forest Policy are as follows (based on Joshi & Pokhrel 1998) :

- Accessible National forests shall be handed over to traditional users.
- Conversion of national forests into community forests shall take priority over their conversion into any other forest type, such as leasehold, protection and production forests.
- Community forest boundaries shall be fixed by traditional use practices rather than administrative boundaries.
- DFOs are authorized to recognize FUGs and hand over forests to FUGs (this authority was vested in higher-ranking officials or with the central government in the past).
- FUGs shall manage community forests as per their constitution and operational plan (OP), both of which are to be approved by the DFO.
- FUGs are autonomous corporate bodies with perpetual succession rights.
- FUGs may plant long-term cash crops, such as medicinal herbs, where this does not disturb the main forestry crops. FUGs may fix prices of forest products irrespective of the government royalty.
- FUGs can transport forest products simply by informing the DFO and may establish forest-based enterprises.
- FUGs can utilize surplus funds in any kind of community development work. They can amend their OP simply by informing the DFO.
- Any government, NGO or other agency can help FUGs to organize and to manage community forests.
- FUG can punish any members who break the rules of their constitution or OP.
- DFOs can reclaim community forests from FUGs if they are found to be working contrary to the OP. However, the DFO must return the forest to the newly reformed FUGs as soon as possible once the problems are resolved.

5 Trends in forest institutional policy

5.1 Institutional policies of the past

Beside the technical aspects of policy formulation, the development of institutional and administrative procedure is vital for the implementation of sound forest management practices. Given this, some attempts have been made in the past to develop organizational and administrative capacity in the forestry sector. For example, forest check posts and forest administration units were established here and there during the Rana Regime, particularly to protect forests from abuse and illegal trade in timber, wildlife and other forests products.

However, the importance of institutional and administrative development was truly emphasized following the establishment of the Ministry of Forests and Revenue in 1952. Expatriate missionaries and foreign advisors were

involved in making recommendations to the Nepali government for institutional and administrative reform and development. As part of this process and in order to increase human resources in the forestry sector, the Institute of Forests was established in 1956 and the Rapti Rural Technical Institute was set up in 1959. The Ministry of Agriculture and Forests replaced the Ministry of Forests and Revenue in 1960. Various territorial offices and departments continued to be establish in many parts of the country. The Timber Corporation of Nepal (TCN) was established in 1960, primarily to coordinate the transportation, removal and utilization of timber harvested from forest areas cleared for agriculture, infrastructure development and resettlement programmes (Shrestha 1965). The Ministry of Forests was separated from the Ministry of Agriculture in 1965 as human resource and forestry institution capacity underwent further strengthening and expansion in various parts of the country.

The Resettlement Company was set up in 1965 to organise the resettlement programme in the Terai region. The office of Chief Conservator of Forests (CCF) was restructured into five sections in order to account for, respectively, the tasks of forest development, forest utilization, forest research, wildlife management and plantation development. The Department of Medicinal Plants and the Forest Resource Survey Centre were created in 1961. The Resettlement Department was also established in 1970 to carry out small-scale resettlement programmes in the country. Similarly, the Fuel Wood Corporation was established in 1966 to coordinate the utilization and supply of fuel wood in Kathmandu and other big cities (Bajracharya 1993). Thus various changes were made to create a permanent framework in the institutional structuring of the forestry sector. However, due to lack of man-power and the inconsistency of forest policy with developments in other sectors, the results achieved were somewhat limited. Nonetheless, the process of change and development in institutional policy continued.

During the 1970s, forest-based organizations grew in number and size. Three governmental departments - including the Department of Forests under the CCF and the Department of Soil Conservation and Watershed Management - and the National Park and Wildlife Conservation Office were established in 1973. The Forest Products Development Board and the Shivapuri Watershed Area Development Board were created in 1976. The National Park and Wildlife Conservation office was upgraded to full departmental status in 1981 and the Department of Drug Administration and the Herbal Products Processing Company were established in the same year. In 1982, the Ministry of Forests was renamed as the Ministry of Forests and Soil Conservation (MFSC) and its constituent Forest Divisions were gradually renamed District Forest Offices (Bajracharya 1993).

5.2 Current institutional policy

At present, the MFSC is composed of five departments, namely, the Department of Forests, the Department of National parks and Wildlife Conservation, the Department of Forest Survey and Research, the Department of Soil Conservation and Watershed Management and the Department of Plant Resources. Five regional forest directorates and four parastatal organizations run within the MFSC. The four parastatals are : The Timber Corporation, Nepal Rosin and Turpentine Company, Nepal Herbal Processing Company and the Forest Products Development Board.

Presently, various forest management development activities are being carried out in all 75 districts of Nepal with the establishment of 74 district forest offices. Similarly, soil conservation and watershed management programmes are being implemented in 55 districts with the establishment of 55 district soil conservation offices, and biodiversity and wildlife management activities are being carried out by Department of National Parks and Wildlife Management in 17 different parts of the country. The Department of Plant Resources is carrying out various programmes on the protection, conservation and development of non-woody plant resources in 14 districts of Nepal. The institutional structure of the MFSC is given in Figure 1 (adapted from MFSC 2000).

The MFSC is responsible for the management, utilization and sustainable development of those forest resources which are directly related to the basic needs of local people. In addition, the ministry helps regulate the supply of forest products and dictates and monitors standards for the productivity of forests, the conservation of biodiversity, and maintenance of ecological balance through the conservation of flora and fauna. The ultimate goal of the ministry is to reduce poverty through the sustainable utilization of forest resources. The MFSC has the following development objectives :

- To create employment opportunities and enhance the income of marginalized people in remote areas of the country through the promotion of forest-based programmes such as cultivation of medicinal plants, timber and non-timber forest products.
- To fulfill the basic needs of rural people through the improved management of forests.
- To increase the status of the existing wood-based industries, and ensure proper management of the forests in order to create employment opportunities and boost the local and national economy.
- To conserve biological diversity, genetic resources, wildlife and the environment.
- To mobilize public participation in forest management, conservation and utilization.
- To manage buffer zones, watersheds and plant resources to help people meet their basic needs.
- To encourage cultivation of medicinal plants and carry out scientific classification of plant bio-

divsersity.

5.3 Structure of the MFSC

5.3.1 Department of Forests (DoF)

The DoF is the biggest department under the Ministry of Forests and Soil Conservation. Within this department there are three divisions, 13 sections and 74 district forest offices. The following list outlines the responsibilities of the DoF :

- To cooperate with the ministry to formulate rules and regulations for the conservation of forests.
- To coordinate and implement plans and programmes related to the development of forest.
- To provide information to the public about the conservation, utilization and management of forests.
- To use techniques applicable to the utilization of forest products.
- To control forest encroachment and promote public participation in forest activities.

5.3.2 Department of Soil Conservation and Watershed Management (DSCWM)

The DSCWM consists of one division and eight sections with 55 district soil conservation offices. The major responsibilities of this department are :

- To formulate land use planning schemes and implement soil conservation and watershed management programmes in the districts.
- To provide technical support to the districts.
- To develop sound techniques for soil and watershed conservation.
- To develop extension materials and distribute them to the districts.

5.3.3 Department of National Parks and Wildlife Conservation (DNPWC)

The DNPWC consists of two divisions and 17 sections. The major responsibilities of this department include :

- Performance of regular monitoring and management of national park and wildlife reserves.
- Management and evaluation of wildlife reserves, hunting reserves and conservation areas.
- Implementation of ecological and conservation education programmes in the field.

5.3.4 Department of Forest Research and Survey (DFRS)

The DFRS consists of two divisions and 17 sections. The major responsibilities of this department are :

- To utilize remote sensing and aerial photographic techniques for resource inventory and forest management.
- To carry out soil tests for research and development and select appropriate technologies.
- To update forest resource inventory and data.

5.3.5 Department of Plant Resources (DPR)

The DPR has three central offices, three divisions, 14 sections and 7 district offices. The major responsibilities of the DPR are :

- To explore, analyze and conduct research on the utilization and development of non-woody plants.
- To conserve and manage botanical gardens and cultivate and develop medicinal plants.
- To carry out floriculture plant breeding and herbarium preparation programmes.

6 Trends in forest regulations

6.1 Regulation in the past

Prior to 1950, the forests of Nepal were used as a freely available resource, and no sound regulatory policy or plan for forest management was developed. Local people had free access to forests to meet their requirements for timber, land, shelter, fodder, fuel wood and grazing. Vast tracts of forest land were used for resettlement and for conversion into agricultural land. These activities were concentrated particularly in the Terai as well as in some parts of the Hill districts. The trend of conversion of forest into agricultural land continued until well after the fall of the Rana Regime in 1951 (Regmi 1978).

After 1951, elementary steps towards synthesis of a regulatory policy for forests were taken for the first time in Nepal's history. Crucially, these steps brought about a realisation in the government of the importance of planned forest management. However, the general public was not, at this stage, informed of the value of forest resource management. A handful of governmental organisations, including a foreign mission advisory board, were recruited to advise the government on drafting a long-range regulatory forest policy. Nonetheless, legitimate provision for forest planning was, as such, not made until the end of 1956. Until that time, the country's efforts were, in effect, focused on the expansion of agriculture and the distribution of land under the resettlement programme, both of which necessitated the clearance of forests in the Terai and Siwalik regions (Agrawal 1976).

However, following protracted effort on the part of the government, the Private Forest Nationalization Act was promulgated in 1957, which classified all forests as state property, with the exception of privately own orchards and forests under 1.3 hectares in the Hills and 3.3 hectares in the Terai (HMG 1980). Although this step was taken with good intention for the protection of forest resources, it provoked embittered reaction amongst forest users who felt suddenly deprived of their right to access forest products and services. Thus, in reality, the regulatory policy of 1957 simply paved the way for a new wave of deforestation and forest conversion on a grander scale as a result of tension between forest users and the state (Zaman 1973).

The Forest Act came into practice in 1961, focusing more on regulation than on people-centred processes in forest management. As such, this Act concentrated on state ownership of and authority over forests, and the

subsequent Land Act of 1963 proclaimed that all land except agricultural land was to be treated as forest land. Together, these two Acts created havoc amongst the public who were encouraged to convert more forest into agricultural land in order to claim that the land constituted cultivated private agricultural land. The annual rate of deforestation was extremely high at this time - the nation's forest cover declined from over 51 per cent during 1950s, to 45.6 per cent in 1964. This represents a major indictment of policy makers who drafted policy without due consideration for social and cultural norms, rural structures and the operational and administrative capabilities of the country. The government was taught a stern lesson with regard to the potential repercussions of ill-planned policy that ignored public priorities and overlooked the historical, cultural and religious values associated with forests (HMG 1993).

Realizing the antagonistic effect that the Forest Act of 1961 was having, the government subsequently issued a string of amendments culminating in the enactment of the Forest Protection Act in 1967. However, essentially this Act was also prejudiced with regard to the supreme authority invested in the government. Regulatory clauses stated in the policy were slanted towards command and control functions for the protection of forests, and failed to yield the significant results that had been anticipated. Although several changes to the policy were subsequently made, all judicial power over the management, protection and utilization of forests remained with the government. Almost all efforts gave way to incompatible results.

The process of encroachment and forest destruction could not be controlled by the government, and the forest area continued to decrease at an alarming rate. An absence of public consultation, frequent change in government policy decisions and a lack of government commitment are considered to be amongst the key factors responsible for forest decline. The failure of past government policy is also attributed to the emphasis placed on the 'command and control functions' of the government without consultation and due consideration for public priorities with regard to the management of forest resources. Furthermore, the clearance of forests for the expansion of agriculture, the development of the resettlement programme and a lack of compatibility between policy in the forestry sector and that of other sectors, are also highlighted as major causes of forest decline (Agrawal 1976). The problems of encroachment and deforestation were never really challenged during this period and the forest area continued to decline from about 45.6 per cent in 1964 to 35.7 per cent in 1977.

Because of these factors, the Forest Act, 1961 was amended in 1977 by the Panchayat Forests (PF) and Panchayat Protected Forests (PPF) Regulations, and again in 1980. The amended Forest Act of 1977 was a bold legislative step for the participatory management, development and conservation of forests (Bajracharya 1993).

Indeed, a participatory approach to forest management began in Nepal based on a political and administrative territorial concept. Although the concept was founded on Panchayat participation, the planning process was conducted in a top-down manner from which local forests users were excluded. The Forest Act of 1977 was further amended in 1978 and in 1980 in order to formalize the rights of local people in forest management. However, although these amendments were made in order to return rights of tenure and ownership to the public, they failed to win absolute public support since management and operational practices remained heavily influenced by the social elite, local politicians, wealthy people and various government bodies. Rights of access to forests for the local poor, the socially disadvantaged and women were barely considered, and the rights traditionally invested in local users were overlooked. Forest technicians at the village and district levels were biased towards local politicians in the distribution, selection, handing over and mobilization of government funds for the management of forests (Bajracharya 1993).

The Decentralization Act, 1982 was formulated to mobilize local resources and public participation for the development of districts and villages and to strengthen and empower local political and administrative authorities. The focus of the decentralization policy was to ensure public participation through a people-centered, bottom-up approach to planning and decision-making and to generate equitable distribution of benefits to the people. Based on the policy, various forest rules and regulations were formulated and amended in subsequent years to ensure local participation and public involvement in forest resource management.

The King Mahendra Trust for Nature Conservation Act, 1982, Soil and Water Conservation Act, 1982 and the National Park and Wildlife Conservation Act, 1972 were promulgated and implemented. The concept of forest user groups in community forestry was introduced to ensure local participation in the management of forests. The Master Plan for the Forestry Sector (MPFS), 1989 for the adoption of a participatory forest management system in Nepal was conceived.

6.2 Current forest regulations : Forest Act, 1993 and Regulation, 1995

Under this act and regulation, the role of forestry staff changed from a custodial one to a facilitative one. This regulatory policy has provided ample opportunity for the involvement of people in the management of all kinds of forests. Similarly, Forest User Groups (FUGs) have been empowered in the community forest management process. Minor adjustments to this Act and Regulation have been made, including additional provision for the penalization of FUGs for offences against the Operation Plan (OP) and its constitution, and the stipulation that a minimum of 25 per cent of the funds accrued

should be spent on community forest development activities, with the remainder being used for community development works.

The present Forest Act, 1993 has categorized Nepal's forests into six classes. These are : Government Management Forests, Community Forests, Protected Forests, Leasehold Forests, Private Forests and Religious Forest. Both the existing Forest Act, 1993 and its Regulation, 1995 are consistent with the policy recommendations outlined in the MPFS and presently there is no indication that they will be amended. The following sections outline briefly the nature of the different forest types recognized by the Forest Act.

6.2.1 Government-managed forests

Government-managed forests are defined as all national forests (except private forests) that are directly managed by His Majesty's Government. Since government-managed forests are national forests, all rights dictating their use are reserved by the government. Government-managed forests may only be used in the capacity prescribed in their work plan ; ownership of the land and of the products derived from government-managed forests lies with the government. Work plans for the management of government-managed forest may only be prepared, approved and implemented by the government. The following activities are prohibited in government-managed forests (HMG 1995) :

- Deforestation, cultivatation and construction (of housing, roads, paths etc.)
- Grazing, the setting of fires and the production of charcoal
- Removal, sale or distribution of forests products, and the extraction of resin, bark, timber, firewood, boulders, rocks, sand or soil
- Export of forest products to foreign countries
- Stealing, destruction or damaging of any government property
- Destruction of biodiversity, the hunting of wildlife and the collection of insects and butterflies

Individuals have no rights of any type in government-managed forests except when a right or facility has been obtained through a lease or in any other way from the government or from an authority empowered by the government. For the purpose of developing or conserving the forest, the government or an authority empowered by the government may close any private or public path or stream situated within the national forest (HMG1995).

6.2.2 Community forests

A community forest is a part of a national forest that has been handed over to a user group for its development, conservation and utilization for the collective interest. The Forest Act and its regulation have provided ample opportunity for people to participate in the management of forests of Nepal basically through the provision of community and leasehold forests. The DFO has the authority to handover management of community forests to user groups. The DFO is also authorized to provide technical and other assistance required to user groups and mobilize users to prepare the work plan for the management of the community forest. As self-governing institutions, FUGs are legally allowed to fix prices for the forest products they sell and to apply silvicultural and other forestry practices in the management of the forest. The new policy has also allowed users to cultivate non-timber forests products as a means of generating income earned on forest based cash crops and to commercialize wood and non-wood products and their processing to fulfill the subsistence needs of local people. In so doing, due consideration must be given to the health and vigor of the forest. Similarly, FUGs are free to collect and spend income generated from the community forest not only for the development of their forest but also in order to carry out other social and community development activities. FUGs may independently network and consult with other FUGs and their federation. FUGs have provided a platform for the discussion of all aspects of forest resource management for local people, politicians and government officials. In the event that a FUG fails to perform its function or attempts to carry out any operation not included in the Work Plan which may cause adverse environmental effects, the DFO is empowered to cancel the registration of the FUG and rescind the rights to the community forests. The FUG has the status of an autonomous corporate body and has a separate seal of its own.

FUGs are fully legalized to collect funds and use them to finance activities of public interest having made full disbursement for the development of the community forest. The FUGs should deposit their income into a separate account. The FUGs are funded by the following sources (HMG 1995) :

- Grant received from His Majesty's Government
- Grant, assistance or donation from any person or organization
- Amount received from the sale and distribution of forest products
- Amount collected through fines
- Amount received from any other source

The FUG is required to submit an annual report of its activities, including descriptions of the condition of the forest and the expenditure and balance of its account, to the DFO.

6.2.3 Protected forests

A component of national forests, protected forests are considered to be of special environmental, scientific or cultural importance. The government prepares and implements a work plan for the management of protected forests. No activities other than those defined in the work plan or those granted special prior approval by the government, can be conducted in a protected forest.

6.2.4 Religious forests

Upon receipt of an application, the DFO can handover

a religious forest to the jurisdiction of a religious body, group or community wishing to manage the forest for its religious value. Before handing over the forest, necessary arrangements must be made to ensure the traditional rights of forest users are not adversely effected. The religious body or community may utilize the forest products derived from the religious forest for religious activities and not for any commercial purpose. Where any significant environmental impact is anticipated, trees may not be removed and any activities which cause soil erosion or damage to public property - particularly in watershed areas - are prohibited. If the group fails to meet any of the terms and conditions defined for the forest's management, the DFO may reclaim the forest at any time.

6.2.5 Leasehold forests

Leasehold forests are areas of national forest leased to any corporate body, industry, community or individuals living below poverty line. As a condition of the lease, leaseholders are required to utilize the forest in one of the following ways (HMG 1995) :

- Production of raw materials required by the forest-based industries
- Production, utilization or sale and distribution of forest products with appropriate measures in place for sustaining the resource
- Operation of eco-tourism in a way that is compatible with the conservation and development requirements of the forest
- Implementation of an agro-forestry project in a way that is compatible with the conservation and development requirements of the forest
- Operation of an insect, butterfly or wildlife farm/park in a way that is compatible with the conservation and development requirements of the forest.

In the event that the leaseholder fails to perform its defined task in accordance with the forest lease, or otherwise undertakes activities that may cause significant adverse environmental effects, the Regional Forest Director may decide to cancel the forest lease and reclaim the forest. The Regional Forest Director has ultimate authority over the lease as stipulated under the MFSC.

6.2.6 Private forests

Private forests are forests planted, nurtured or conserved on any private land owned by an individual. The owner of the private forest may develop, conserve or manage the private forest, and utilize or sell and distribute the forest products by fixing prices at will. Any person or institution can register a privately owned forest with the government, and is legible to receive any necessary technical assistance from the state if they do so.

7 Analysis of policy trends in terms of local participation

7.1 Introduction

Local participation can be analyzed from several different perspectives. The first 'school of thought' suggests that people are mobilized into *forced participation* in order to provide benefits for the community. The second school of thought asserts *self-initiated participation* in which individuals volunteer their assistance without any contribution from the government or external body, relying instead on self-motivation for the fulfillment of self-recognised objectives. A third school of thought attributes participation to *facilitated participation* in which local people are given incentives to contribute by a facilitator. Finally, the fourth school of thought claims *induced participation* is at work, in which local people are induced through various processes to change their behavior that brings them into the arena of resource sharing and cooperation ; this level of participation is typically brought about by the efforts of an external agency.

Regardless of the mode of participation, however, participatory groups and individuals are normally facilitated and motivated by an external source, which is responsible for their sustained involvement in all aspects of decision-making, from planning and management to implementation and utilization of resources. Therefore, all four schools of thought need to be analyzed in terms of the contextual environment that supports local participation, and the trends and means of evaluation that shape this system in Nepal.

In the following sections, legislation relating to the evolution of community forestry in Nepal is summarized in table form, and an analysis of the different modes of participation as they manifested themselves throughout this evolution is presented.

7.2 Trends in legislation

7.2.1 Overall trends

Key trends in Nepali forest policy are summarized in Table 2.

7.2.2 Trends in community participation

The key legal instruments that have facilitated community forestry in Nepal are summarized in terms of their impact on policy clauses in Table 3.

7.3 Analysis of participation

7.3.1 Forced participation

Some forms of forced participation can be identified in the management strategies that existed prior to the fall of the Rana Regime. Essentially, people were compelled to obey the National Code for the protection and utilization of forests. Without financial reimbursement, local people were forced to cultivate and reclaim land, control floods, capture and hunt wildlife, collect fodder, timber, fuel wood and other forest products, by landlords, vil-

Table 2 Timeline of forest management policy in Nepal (source : based on ICIMOD quoted in McDougall 2002).

Year	Policy/Act/Regulation	Remarks
Up to 1846	Conversion of forests to agricultural land	Increased the tax base of the state
	Protection of Terai forests	As a buffer against foreign invasion
1846-1950	Forest lands given as *Birta** to influential officials	Conversion of forests to agricultural land
	Exploitation of Terai forests	Export of timber to India
1957	Private Forests Nationalisation Act	Indiscriminate cutting of forests
1961	Forest Act	Protection, management and utilisation of forests entrusted to the Department of Forests (DoF)
1967	Forest Preservation Act (Special Provision)	The powers of the DFO as a law enforcing agent further strengthened
1976	National Forestry Plan	Recognised the need for people's participation in forest management
1978	*Panchayat* Forest Regulations and *Panchayat* Protected Forest Regulations	Handing over of limited areas of government forest land to the control of *Panchayats*
1981	Forestry Sector Policy of the Sixth Five-Year Plan (1981-85)	Emphasised community participation in the management, conservation and use of forest resources
1982	Decentralisation Act	Moves towards transferring the control of forests to local people strengthened
1984	Decentralisation Regulations	Moves towards transferring the control of forests to local people strengthened
1988	Master Plan for the Forestry Sector (MPFS) Nepal	Covered all aspects of forestry; designed to take Nepal's forestry into the 21st century; strongly emphasised community forestry and recognised the role of the real users in forest management
1993	Forest Act	Regulatory function of DFO still intact, but significantly reduced. Forests can be handed over to Forest User Groups by the DFO
1995	Forest Regulations	Procedural guidelines for implementation of the Forest Act 1993

* Birta was tax-free land tenure endowed to members of the ruling nobility and their followers.

lage leaders and district administrators (Regmi 1971). People had no rights to freely access or utilize forest products for their daily needs.

7.3.2 Self-initiated participation

After the fall of the Rana Regime in 1951, the system of forced participation was abandoned and replaced by self-initiated participation by the people. Indigenous systems of forest and pasture management were put into practice. The *Singo-Nau* concept of Sherpa communities, which protect, regulate and utilize village woodlots and local forests for the sustainable supply of forest products to meet local demands, was a living example of self-initiated community participation in forest management (Furer-Haimendorf 1975). Similarly, some local groups and communities consolidated themselves to protect and sustainably use local forests for social welfare and religious purposes. *Mana-Pathi,* one example of this, is a self-initiated participatory system for the protection of woodlots and local forests from intruders and abuse by local people, that can still be seen in practice in some of the districts today. There is also evidence that people in the past employed self-initiated participatory means to protect and manage their forests for a range of different purposes (Regmi 1978). Various factors are responsible for the loss of such systems from the mainstream of forest management, as summarized here :

- Loss of faith in the government on the part of local communities, following the introduction of policy which nationalized private forests. Local communities increasingly distrusted the government as their traditional rights to manage forests and harvest forest products were successively stripped away.
- The nationalization policy was abruptly enforced without adequate public consultation or notification, and without any education as to why the policy should be of importance to local forest users.
- Frequent change and inconsistencies in government policy on forest management, and a lack of policy to protect and strengthen traditional systems for common forest resource management.
- Emergence of top-down politics in the forestry sector and introduction of labour intensive forestry projects and programmes to generate employment.
- Loss of self-reliance in rural communities and increasing dependence on external development

Table 3 Evolution of community forestry clauses in Nepali forest legislation (source : ICIMOD quoted in McDougall 2002).

Clause	1978 Regulations	1979 Amendment	1987 Amendment	1995 Regulations
Community Forest Area	Panchayat Forest not more than 125 ha; Panchayat	Panchayat Forest not more than 125 ha; Panchayat	No limit	No limit
	Protected Forest not more than 250 ha	Protected Forest not more than 250 ha		
Rate of Benefit return (%) to the Community	40	75	100	100
Use of Community Funds	50 % for forestry	50 % for forestry	100 % for forestry	Forestry; surplus used for any community development work
Pricing of Products	Not less than government royalty rates	Not less than government royalty rates	Not less than government royalty rates	As per FUG decision
Plan Preparation	By DFO	By DFO	By community	By community
Plan Approved By	Conservator	Conservator	Regional Director (new name for Conservator)	DFO
Community Forest Boundary	Administrative	Administrative	Administrative	Defined by use practices
Management Responsibility	*Panchayat*	*Panchayat*	User Committee under *Panchayat*	Forest User Group (FUG)
Chairperson	Elected leader of *Panchayat*	Elected leader of *Panchayat*	Nominated by the *Panchayat*	Selected by the Users' Assembly

projects.

- Removal of forest for the expansion of agriculture and development of resettlement programmes in the Terai and Siwalik regions.

7.3.3 Facilitated participation

When the Nationalization of Private Forest Act, 1957 came into force, indigenous/traditional systems of self-initiated participation in forest management slowly began to disappear. In their place, facilitated participatory strategies were promoted. Under such strategies, external bodies offer various incentives and subsidies to facilitate and mobilize people in forestry development programmes, though without providing the freedom to manage the forest independently.

Following the gradual disappearance of traditional, self-initiated community participation, the government initiated various alternative approaches aimed at the rejuvenation of participatory forest management. The government drafted policy which sought public support for and participation in the Panchayat system for local resource management. This came at a time when the timber trade with India was fading out and the wood-based industries were losing momentum. In addition, the government was unable guarantee supplies of raw material to industry due to the scarcity of timber and other forest resources (Regmi 1978). The Panchayat Forest (PF) and Panchayat Protected Forest (PPF) models are examples of facilitated participation in which people were invited to initiate community participation for the first time in the history of forest management in Nepal. In support of the scheme and to promote widespread participation, various forestry campaigns were launched and formal celebrations, under the banner of Forest Conservation Day, were instituted by the government (NPCL 1963).

The policy restricted the range of decisions open to forest users in the planning, management and utilization of forest products. However, communities of forest users were not directly formed and organized by the policy, but rather were guided by it and incorporated into its collaborative approach.

Participatory priorities under this system of forest management were defined by local administrative units, whilst responsibility over major decisions relating to planning and management considerations remained with the government. Local people were mobilized at the community level to implement government objectives and meet government targets. No provision was made for the involvement of people in the maintenance of programmes once targets had been achieved.

In the Second Five-Year Plan (1962–1965), public participation in the implementation of management strategies was sought through local groups but did not materialize as expected.

In the Third Plan (1965–70), emphasis was placed on extension and publicity of forest issues to increase awareness amongst the public of the value of their participation in forest management. Participation was

sought for the implementation of projects by providing incentives or compensation to local people. However, the planning process was centralized and top-down, and local people were not involved in planning or decision-making stages. Thus the facilitated participation process did not yield satisfactory results, and no moves were made towards shifting ownership and responsibility in forest development work. The concept of participation as it manifested itself in this policy, though outwardly developed along 'give and take' lines, neglected issues of ownership and sustained involvement in forest management, conservation and utilization programmes.

The 'Go to the village' national campaign, established in 1967, was a benchmark event which raised public awareness and spirit at the local level. Political leaders, students, teachers and local leaders were used in this campaign to visit village sites to educate and raise awareness in amongst local groups of forest conservation and plantation issues for better management of forests (NPCL 1965).

In the Fourth Plan period (1970–75), it was realized that effective participation in forestry could only be achieved if people were involved right from the beginning of the process, from planning to implementation, to imbue a sense of ownership and responsibility. Despite this, no concrete participatory policy was drafted based on these perceptions and therefore only a small number of programmes were initiated on the basis of this progressive participatory approach.

Under the Fifth Plan (1975–80), however, the National Forestry Plan of 1976 was enacted and local participation strategies were promoted in what became a corner stone of government forest policy (HMG 1978). Several projects backed by a number of agencies facilitated local people in forest development work, raised awareness and increased rural motivation. The Fifth Plan also emphasized the role of rural people in the decision-making process in local level forestry programmes. Despite its success, however, the policy struggled to maintain momentum at a national level.

The National Development Service (NDS) of Tribhuvan University emphasized the need for mobilization of local people to contribute to the tasks of preserving forests and other development activities. Such NDS programmes made significant efforts to facilitate and mobilize people in a range of development projects including forestry. Unfortunately, however, the NDS programme was dropped because of political reasons (HMG 1967).

In the late 1970s, participatory approaches to afforestation were also emphasized - free seedlings and seeds were distributed to community groups to help facilitate establishment of forest plantations. Awareness programmes were also implemented by some social and welfare related organizations. However, because bureaucratic domination, political unrest and a heavily top-down planning approach, significant results could not be achieved.

The Sixth Plan (1980–85) emphasized people's participation in forestry through the *Panchayat* system. The government made a commitment to distribute 45 per cent of national forest to participatory *Panchayat*-based forestry programmes. The policy also emphasized people's involvement in decision-making, planning and implementation of forestry development projects in consultation with and under the supervision of local *Panchayat* level Co-ordination Committees (NPC 1979). Based on this policy, many forestry projects were conceived, providing incentives and subsidies to mobilize people participation in the implementation of forestry activities. Awareness of the importance of forest conservation and management were increased substantially throughout many villages. In 1982, the Decentralization Act was enacted with the objective of increasing the volume of participatory projects by devolving planning and implementation authority to the local level.

7.3.4 Induced participation

Induced participation is regarded as being dominant in the current phase of participatory forest policy in Nepal. Under current policy, the government has emphasized community forestry via a user group approach. This involves sustainable approaches to the protection, development and management of local forests though the formation of FUGs at a local level. As such, the FUG has become the only institution responsible for the overall management of local community forests. Thus with this policy, early concepts and practices of local participation, which for the most part had been driven to extinction following the enactment of the Nationalization Forest Act in 1957, were once again brought to the fore, albeit via a different mode of induction. Recommended by the MPFS of 1989, this approach to forest management was fully endorsed by government and has been legitimized by the current Forest Act, 1993.

Current policy for community forestry development seeks to fulfil the following :

- All accessible forests are to be handed over to forest users to the extent they are willing and capable to manage them as community forests.
- Forest user groups shall manage and protect these forests for the benefit of local users.
- Forest user groups shall have access to all the products and income derived from the forest for the development of the forest and other social and community development activities.
- Women, the poor, and deprived and disadvantaged groups should be actively encouraged and included in the activities of the users' group as a priority.

Policy for community forestry is based on three aspirations : empowerment, institutionalization and contribution. The FUG is crucial in attaining the objectives of maintenance and restoration of forest ecosystems, to

increase the basic productivity of forests and so ensure the supply of the subsistence needs to local people.

As a result of this evolution in participatory policy, some FUGs are now fully empowered to exercise and delegate rights and responsibilities in the decision-making, planning and management stages. Some FUGs are now even developing their own silvicultural practices for the protection, production, harvesting and distribution of forest products among the users. However, as yet very few FUGs are independently capable of interacting with other user groups to adopt collective actions in decision-making and conflict resolution. Furthermore, the capacity of FUGs to mobilize locally generated resources for the development of forestry as well as other social and community activities is still questionable. And in many villages, the role of FUGs in alleviating social and economic inequalities at the village level has yet to mature. Questions continue to be raised regarding equitable access to forest resources (especially by the poor, women and other disadvantaged groups) and equitable cost and benefit sharing among users. Nonetheless, FUGs are in the process of promoting themselves as a model of institutional autonomy for entry into and management of other development issues, as they continue to raise the status of and assume responsibility over all aspects of community forestry.

Strengthening the institutional capacity of FUGs is now one of the important challenges that have to be met to allow them to better express and address their needs. Institutional strengthening is believed to be crucial in enhancing the FUGs' ability to better incorporate the poor, women and other deprived forest users, and to streamline access to and use of resources so as to improve their service.

Now that the number of FUGs is increasing, more and more households are being involved in community forest work and more and more individuals are organizing themselves into user groups. Presently, there are about 12,000 FUGs. About 1.3 million households are involved in community forestry programmes, which accounts for 35 per cent of rural and 29 per cent of all households in Nepal (HMG 2001). The FUGs are organized into a Federation of Community Forestry in Nepal (FECOFUN) at the district and national level. FUGs have developed their own constitutions and some FUGs are now capable of exchanging their views through the network whilst making decisions on certain issues. In some cases, FUGs are acting as pressure groups in villages and districts, either directly or through the federation, for the development endeavors of the community forest and welfare of the local people, especially the users.

7.4 Comments and discussion

Dedicated contribution on the part of the FUGs is key to the success of the community forest. FUGs have contributed a lot in terms of labour, skills, money, time and energy to make community forestry a successful forestry programme in Nepal. The users, in utilizing their own resources with the help of a small government subsidy, undertake almost all the community forest development activities in the village. Government support of the FUGs is limited to training, institutional development, income generation activities and post formation support.

However, the status of community forestry in Nepal should be viewed in terms of the FUGs' institutional, social, technical and financial capacity.

The institutional capacity of a FUG is primarily based on its ability to perform as per the Charter and Operational Plan that has been prescribed for the sustainability of the community forest. Many of FUGs have low performance in this regard. For instance, many fail to appropriately form an executive committee, conduct general annual meetings, prepare annual audit reports, conduct forest inventories and revise their operational plan. It is reported that more than 2000 FUGs (*i. e.* 17 per cent) have operational plans that are either unrevised or incompletely drafted.

In many cases, failure to conduct meetings has resulted in lack of interaction and loss of coherence and mutual trust among users. In such cases, the collective voice and the strength of the FUG as an institution suffers. This is particularly the case in many CFUGs in Hill districts. It is now vital that FUGs demonstrate their ability to overcome such inadequacies, and so ensure equitable access to and control over forest resources for all users. In so doing, they will strengthen their capacity to manage conflicts and promote community development activities. In many cases, gender equity remains a particular problem : a rough estimate has indicated that the involvement of women in participatory forestry may be as low as 22 per cent in Nepal. There are additional reports which suggest exclusion and deliberate failure to imbue all users with uniform rights to forest access and use, may also be occurring. Such exclusion can lead to conflict and resource abuse, and may increase the likelihood of encroachment into non-FUG forests nearby.

Problems and conflicts within and among participatory groups remain because of heterogeneous socio-economic strata and a diversity of needs and problems with respect to accessing forest products. Issues such a forest boundary conflicts between villages and user groups, short supply of forest products and disparity in benefit sharing among participatory groups are also prevalent in many community forests.

The financial capacity of a FUG is based on its ability to manage, generate, mobilize and utilize funds for social and community development endeavors. Moreover, the proficiency of the FUG to do so reflects the leadership and management skill of the groups. This incorporates adequate and transparent record-keeping, timely auditing and dissemination of audit reports to stakeholders.

The fund-generating capacity of participatory groups in the Terai has been better than the capacity of groups in Hill districts, mainly because the Terai community forests are of higher commercial value, thus creating more market opportunities and potential for development of the forest-based industries than in the Hills. However, in general the financial capacity of all participating groups in both regions is far behind what had been expected initially.

User groups are also inadequately developed to make use of available technical capacity in terms of ability to prepare and update forest inventories ; identify, promote and introduce non-timber forest products for quick income generation ; perform necessary plantation and silviculture operations ; and prepare and review operations plans periodically. However, except in a few cases, most community groups lack technical capacity altogether. This is because of a lack of fundamental knowledge and an absence of adequate support from the government and other service providers to mobilize and educate them in such technical aspects. Overall, this absence of technical knowledge, group dynamic and constitution, as well as a lack of ability and skill to identify, plan, prioritize and implement development activities, combined with ignorance of community forest policy, rules and regulations, together conspire to significantly allay the sustainability of FUGs in Nepal.

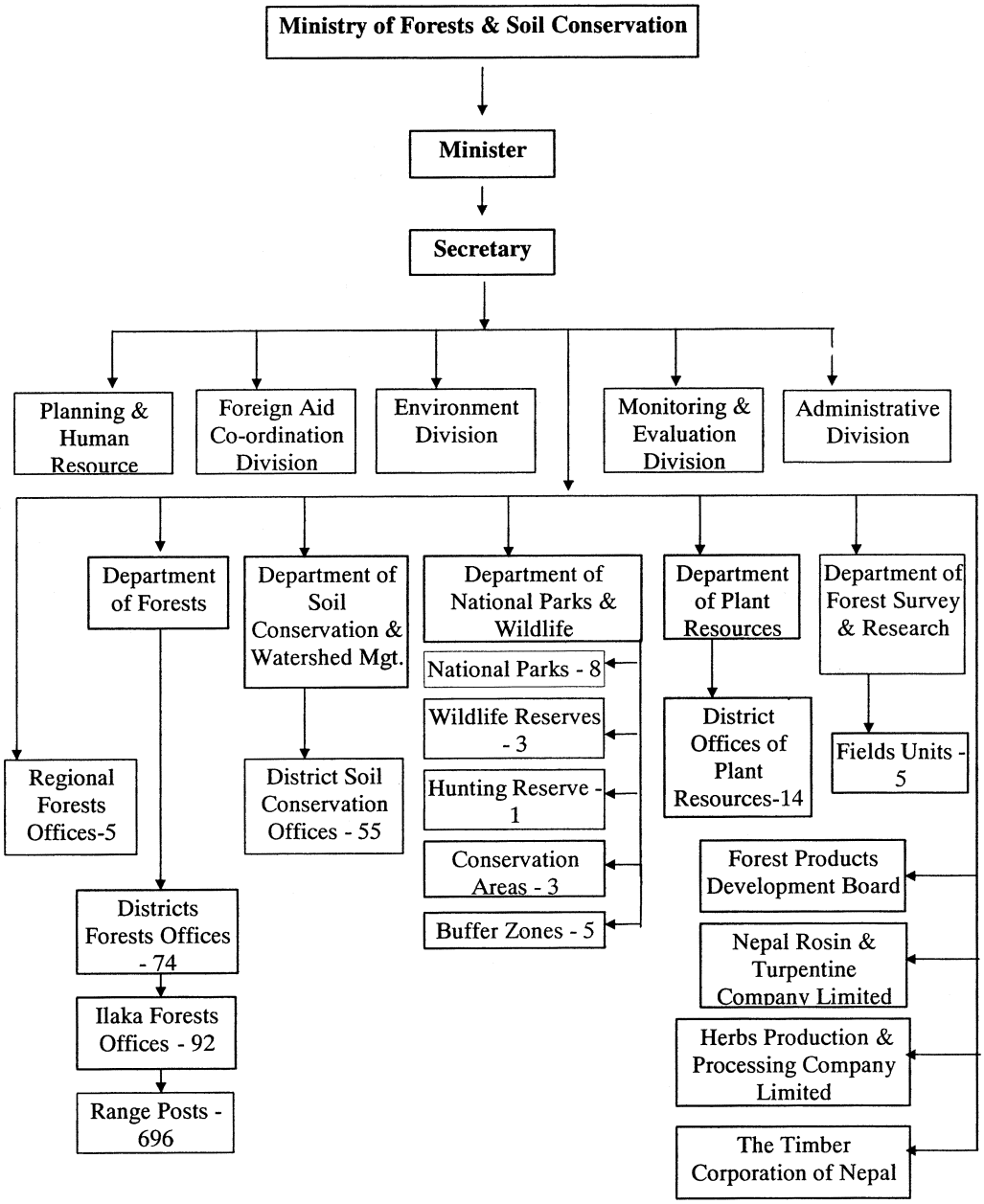
Based on such experiences, it is therefore reasonable to conclude that, in terms of institutional, social, technical and financial capacity, the management and leadership prowess of FUGs in general require additional momentum in order to meet the policy goals of sustainable community forestry in Nepal.

8 Conclusion

The forests of Nepal have been badly affected by inappropriate planning and the instability of government policies in the past. Present forest policy in Nepal is framed within the context of decentralization and a drive towards development of participatory forest management. In this process, the passage of the Forest Act, 1993, Forest Regulation, 1995 and the Master Plan for the Forestry Sector, 1989 have been instrumental in providing legislative support for the improved management of forests in Nepal. They have also provided the legal framework in which the CFUGs have been empowered to oversee the organization and registration of FUGs for local forest management. Present forest policy aspires to the reduction of poverty whilst addressing the multiple issues of development of the forest-based industries, biodiversity conservation, soil conservation, watershed management and ecological restoration.

These policies have strengthened the roles and responsibilities of all sectors involved in forest management. The Forest Act and its associate Regulation have set the stage for the facilitation of a multiple use-oriented approach to forestry in Nepal.

Organizational Chart of the Ministry of Forests & Soil Conservation



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Recent Developments in International Treaties Relating to Forests[1]

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Abstract : This paper surveys recent developments in global multilateral environmental agreements that relate to the conservation of forests. These include the Convention on Biological Diversity, the Framework Convention on Climate Change, the Convention on Desertification, the Convention on International Trade in Endangered Species, and the Ramsar Convention. It identifies the measures in these agreements applicable to forests and the participation of local populations. Relevant actions taken by institutions created by these agreements are also surveyed. The present paper concludes that the most important treaty to support forest conservation continues to be the Convention on Biological Diversity, although its ultimate effectiveness in this area will depend on whether the forthcoming COP-6 will adopt a truly action-oriented programme of work on forest biodiversity. The implementation of forest-related treaties must be considered in conjunction with the results of the UN Forum on Forests, and must be coordinated with each other in order to contribute effectively to forest conservation. Public participation, and particularly the role of indigenous and local communities, is recognised as essential in all the treaties surveyed, however efforts to involve all stakeholders in a meaningful way in forest conservation must be redoubled. This should be done in conjunction with the development and implementation of national forest programmes called for by the UN Forum on Forests.

Key words : forest conservation, multilateral environmental agreements, public participation.

1 Introduction

This paper surveys recent developments in global multilateral environmental agreements (MEAs) that relate to the conservation of forests. It identifies the measures in those agreements that are applicable to forests and in particular, the participation of local populations. Relevant actions taken by institutions created by these MEAs are also surveyed. In conclusion, a brief assessment is presented.

2 Convention on Biological Diversity

The Convention on Biological Diversity (CBD) sets forth a framework that seeks to achieve the following objectives : (a) the conservation of biological diversity, (b) the sustainable use of the components of biological diversity, and (c) the fair and equitable sharing of benefits arising from access to genetic resources[3]. Although there are no provisions that expressly mention "forests", it is nonetheless apparent that the subject matter of many of the CBD's provisions apply to forests.

In line with the Convention's ambition to attack the root causes of biodiversity loss, parties to the convention are required to identify and regulate those processes and categories of activities which have or are likely to have significant adverse impacts on the conservation and sustainable use of biological diversity[4].

Central to the Convention are its requirements on *in situ* conservation, as set out in Article 8, which include :

- Establish a system of protected areas
- Regulate or manage important biological resources to ensure their conservation and sustainable use
- Promote the protection of ecosystems, habitats and maintenance of viable populations of species in natural habitats
- Rehabilitate of restore degraded ecosystems
- Prevent the introduction of alien species that threaten ecosystems, habitats or species, and eradicate or control them, if already introduced
- Develop or maintain legislation or other regulatory provisions to protect threatened species or populations
- Regulate or manage processes and activities which have or are likely to have significant adverse impacts on the conservation of biological diversity and the sustainable use of biological resources

Parties are called upon to integrate consideration of the conservation and sustainable use of biological resources into national decision-making and to adopt measures to avoid or minimise adverse impacts on biodiversity[5]. In recognition that command-and-control regulation is not always the most effective means of achieving conservation ends, the Convention encourages Parties to adopt incentive measures[6].

The CBD establishes a regime for access to genetic resources and benefit sharing. It affirms the right of a country providing genetic resources to determine access to those resources, and requires that such access be subject to the providing party's prior informed consent[7]. The CBD seeks to channel the benefits derived from the

[1] This report is up to date as of 1 January 2002.

[2] Senior Associate, Ecologic - Institute for International and European Environmental Policy, Berlin. This article builds on a report prepared in 2001 on Forest-Related Multilateral Environmental Agreements : A Survey of Provisions and Interactions by Richard Tarasofsky and Sebastian Oberthuer, available from the author.

[3] Article 1.

[4] Article 7 (c) and 8 (l).

[5] Article 10.

[6] Article 11.

use of genetic resources to the party of origin : recipients are required to share in a "fair and equitable" way the results of research and the benefits of commercial and other use, on the basis of mutually agreed terms[8]. Technology is also to be transferred to developing countries, taking account of existing patents and other intellectual property rights[9].

Parties are to develop national biodiversity strategies, plans or programmes, that reflect the measures set out in the Convention[10]. The Convention also requires the integration of conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans, programmes and policies.

The Convention recognises the crucial role traditional and local communities play in conserving biological diversity and sustainably using biological resources. Article 8 (j) stipulates that subject to their national legislation, Parties are to :

- respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities ;
- promote their wider application with the approval of the holders ;
- encourage equitable sharing of the benefits arising from the use of such knowledge, innovations and practices.

In addition, Parties are to protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation and sustainable use[11].

Parties are also required to submit national reports on the implementation of the Convention. The first reports were submitted prior to COP-4 (Conference of the Parties, Date). Many of these reports contain provisions relating to the conservation of forests, illustrating the high relevance the CBD has to forests[12].

At COP-4, a Work Programme on Forest Biodiversity was adopted. The four elements of the work programme are as follows :

1. A holistic and inter-sectoral ecosystem approach that integrates the conservation and sustainable use of biological diversity, taking account of social, cultural and economic considerations

2. Comprehensive analysis of the ways in which human activities, in particular forest-management practices, influence biological diversity and an assessment of the ways in which the negative influences can be minimised or mitigated

3. Development of methodologies that are necessary to advance the elaboration and implementation of criteria and indicators for forest biological diversity

4. Further research and technological priorities as identified in recommendation II/8 of the Subsidiary Body on Scientific, Technical and Technological Advice as well as issues identified in the review and planning process under the work programme.

Thus, the work programme is mainly research- rather than action-oriented. The work programme is to be implemented by Parties through means such as workshops, expert networks, and the CBD clearinghouse mechanism. However, neither an institutional framework nor a clear timetable is provided and, in addition, the role of the secretariat is not made clear. These concerns led COP-5 to call for the implementation of the work programme to be advanced and for Parties to consider, by COP-6, expanding the focus of the work programme from research to practical action-[13].

In preparation for COP-6, an ad hoc technical expert group on forest biological diversity was convened, and, on the basis of its deliberations, the Subsidiary Body on Scientific, Technical and Technological Advice prepared elements for an expanded Work Programme on Forest Biological Diversity. Prior to COP-6, the Secretariat is to prepare a report that identifies elements in the current work programme of relevance to the expanded work programme, and how these may be incorporated into the expanded programme, as well as potential actors, a suggested timeframe and possible ways and means for implementing the activities proposed.

The proposal for the expanded work programme contained three programme elements : conservation, sustainable use and benefit sharing ; institutional and socio-economic enabling environment ; and knowledge, assessment and monitoring. The goals of the first programme element are the appliance of an ecosystem approach in the management of all types of forests ; a commitment to reduce the threats and mitigate the impacts of processes threatening to forest biological diversity ; protection, recovery and restoration of forest biological diversity ; promotion of the sustainable use of forest biological diversity ; and the access and benefit sharing relating to forest genetic resources. A particularly important objective of this programme element is to enable indigenous and local communities to develop and implement adaptive community management systems to conserve and sustainably use forest biological diversity. Goal three of the second programme element is to increase public education, participation and awareness, which is focused on increasing public support and understanding of the value of forest biological diversity and its goods and services at all levels.

At COP-5, several other decisions were adopted that are relevant to forests. The most significant of these is the commitment to an ecosystem approach to forest

[7] Article 15 (1).
[8] Articles 15 (7) and 19 (2).
[9] Article 16.
[10] Article 6.
[11] Article 10 (c).
[12] See for example the reports submitted by Austria, Brazil, China, European Community, Hungary, Russia, South Africa, United Kingdom.
[13] Decision V/4.

conservation, but other relevant decisions include the directives of Article 8 (j), as well as those relating to the management of alien species and cooperation with other international bodies. The decision on Article 8 (j) is particularly important, since it creates a work programme for addressing the role of indigenous and local communities in the conservation of biodiversity and the sustainable use of its components.

3 Framework Convention on Climate Change

A number of provisions of both the UN Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol either refer directly to forests and forestry or are indirectly relevant to forest policies. As a result of intense negotiations, the Convention refers to "emissions by sources and *removal by sinks* of greenhouse gases" (emphasis added) in several places, most notably in Article 4.2 on the commitments of those industrialised countries included in Annex I (the so-called Annex I Parties).

According to the convention, sinks have to be taken into account with respect to the soft aim of reducing Annex I Parties' greenhouse gas emissions to 1990 levels by the year 2000[14]. According to Article 4.1 (c), all Parties are committed to "promote and cooperate in the development, application and diffusion ... of technologies, practices and processes that control, reduce or prevent anthropogenic emissions of greenhouse gases not controlled by the Montreal Protocol in all relevant sectors, including ... forestry ...". Article 4.1 (d) commits Parties to "promote sustainable management, and promote and cooperate in the conservation and enhancement, as appropriate, of sinks and reservoirs of all greenhouse gases not controlled by the Montreal Protocol, including ... forests ...". These provisions provide some safeguard against unsustainable forestry practices by calling upon Parties to promote sustainable forest management and reduce deforestation ("the reduction or prevention of emissions" and the "conservation of sinks and reservoirs") as well as to increase the growth of forests, i.e. afforestation and reforestation ("enhancement of sinks"). In addition, Article 4.8 stipulates that special consideration should be given, inter alia, to countries with forested areas and areas liable to forest decline.

Other specific forest-related provisions are contained in the Kyoto Protocol. While the term "sinks" is not defined in the Convention, the Kyoto Protocol determines three categories of sinks that should be used by industrialised country Parties in meeting their quantified emission limits or reduction commitments : " afforestation, reforestation and deforestation since 1990, measured as verifiable changes in carbon stocks in each commitment period"[15]. Only "direct human-induced activities" are taken into account. While the scope of forestry activities that can be included thus appears to be limited, additional categories (such as forest management) might be included on the basis of Article 3.4. Article 3.4 enables the Conference of the Parties serving as the meeting of the Parties to the Protocol (COP/MOP) to include further sink categories in the forestry sector. Such additional sink categories would generally only become relevant for the second commitment period (i.e. starting in 2013). However, Parties can choose to apply them already for the first commitment period, provided that the relevant activities have taken place since 1990[16]. In addition, Parties which had positive emissions from forestry activities in the baseline year 1990 are allowed to subtract these emissions from their baseline in order to determine their emission reduction commitment, which thus becomes smaller[17].

Article 6 opens up the possibility of implementing forest-related joint implementation projects among Annex I Parties - that is, in practice, between industrialised OECD countries and countries with economies in transition (CEIT). Investing OECD countries can thereby acquire "emission reduction units" resulting from projects that lead to emissions reductions or enhanced removal by sinks from host CEIT countries.

Article 12 of the Protocol defines the Clean Development Mechanism (CDM). The CDM basically provides a framework for implementing joint implementation projects with the involvement of developing country Parties. Investor countries will earn "certified emissions reductions" resulting from relevant project activities. Article 12 does not explicitly include removals by sinks. Indeed, the inclusion of sinks in the CDM has been hotly disputed by the COP, but that issue has now been resolved.

Finally, some unspecific references to forests and forestry are included in Articles 2 and 10 of the Kyoto Protocol. Article 10, inter alia, obliges Parties to elaborate and implement programmes that mitigate against or promote adaptation to climate change. Such programmes, as well as the associated reports, should include the forestry sector. According to Article 2, each Annex I Party shall implement policies and measures such as, inter alia, protection and enhancement of sinks and reservoirs, promotion of sustainable forest management practices, afforestation and reforestation. Addressing potential conflicts with other environmental objectives, protection and enhancement of sinks and reservoirs is to be undertaken by each Annex I Party "taking into account its commitments under relevant international environmental agreements". However, these provisions hardly require Parties to take any specific action.

The meaning and impact of the aforementioned forest-related provisions of the Kyoto Protocol to a large extent depend on their further clarification and their implementation. For example, definitions of key terms

[14] Article 4.2 (b).
[15] Article 3.3.
[16] Article 3.4.
[17] See Article 3.7.

such as "forest", "reforestation" and "direct human-induced forestry activities" were not set out in the Protocol.

As a basis for these political decisions, the Intergovernmental Panel on Climate Change (IPCC) prepared a special report on land use, land-use change and forestry in 2000. The IPCC Special Report spells out in particular the implications of different definitions of the terms reforestation, afforestation and deforestation, varying accounting methods and the inclusion of further sink categories under Article 3.4 of the Kyoto Protocol. Depending on the definitions and accounting method chosen, forests could thus either increase industrialised countries' calculated CO_2 emissions by roughly 20 per cent or reduce them by about 15 per cent (about three times the overall reduction commitment of Annex I Parties). If all additional forest-related activities under Article 3.4 were included, this could lead to a further decrease of calculated emissions roughly 1.5 times (though potentially up to ten times) greater than the reduction obligation of 5 per cent required of industrialised countries.

The process of clarifying many of the ambiguities of the Kyoto Protocol began in 1998 with the adoption of the Buenos Aires Plan of Action by COP-4 and a decision on terminology was scheduled for COP-6 in November 2000. However, when Parties at COP-6 in The Hague failed to reach agreement, COP-6 was suspended and reconvened in mid-2001. The result of the reconvened COP was the Bonn Agreement, which stipulated that Annex I countries may meet part of their emissions targets through four types of land use, land use change and forestry activities - one of which is forest management. A specific allocation for the amount of carbon uptake that each Annex I country is entitled to use to contribute towards its emissions targets from forest management activities was also agreed in Bonn. If Annex I countries overshoot their targets, the Bonn Agreement allows the excess credits to be "banked" and carried over into the next commitment period.

Further developments occurred at COP-7, which took place in Marrakech in November 2001[18]. Key terms, such as "forest", "afforestation", "reforestation", "deforestation" and "forest management" were defined, and the Marrakech Accord, which limits sink projects under the CDM to afforestation and reforestation programmes and excludes forest conservation projects, was drafted. In addition, the amount of credit derivable from such projects was limited to 5 per cent of the assigned total during the first commitment period. Specific rules for sink projects under the CDM are to be adopted at COP-9. Furthermore, as a result of hard bargaining, Russia succeeded in almost doubling the number of credits it was allocated in Bonn for forest management activities. All of these decisions must be adopted by the Kyoto Protocol's Meeting of the Parties once the Protocol enters into force, in order for them to become legally binding, although the political decision has been taken to already begin implementing them.

[18] See Decision 11/CP. 7.

4 Convention on Desertification

The UN Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa in 1994 (Convention on Desertification), was the culmination of a negotiating process that began at UNCED in 1992. The objectives of the convention are to be achieved through effective action at all levels, with an integrated approach to sustainable development in affected areas. According to Article 4 (2) (a), such an integrated approach involves addressing the physical, biological and socio-economic aspects of desertification and drought. Indeed the Convention takes a holistic approach towards the issues involved, as illustrated by the definition of land degradation adopted in Article 1 (f) as the "reduction or loss, in arid, semi-arid and dry sub-humid areas, of the biological or economic productivity and complexity of certain land resulting from land uses or processes such as long-term loss of vegetation".

Affected country Parties undertake to do the following :

- give due priority to combating desertification and mitigating the effects of drought ;
- establish strategies and priorities to combat desertification and mitigate the effects of drought ;
- address the underlying causes of desertification ;
- promote awareness and facilitate participation of local populations in efforts to combat desertification and mitigate the effects of drought ;
- provide an enabling environment through legislation, policies and action programmes[19].

Affected country Parties are to prepare National Action Programmes, in the framework of the regional implementation annexes, which should be updated regularly and be closely inter-linked with other policies for sustainable development[20]. National Action Programmes are to identify the factors contributing to desertification and the practical measures necessary to combat desertification and mitigate the effects of drought[21]. In so doing, they shall specify the roles of government, local communities and land users, and shall, *inter alia,* give particular attention to implementing preventive measures for land not yet or only slightly degraded, promote policies and strengthen institutional frameworks, and provide for effective participation[22]. The Convention also requires affected country Parties to consult and prepare sub-regional and regional action programmes[23]. Support is to be given for the elaboration

[19] Article 5.
[20] Article 9 (1).
[21] Article 19 (1).
[22] Article 10 (2).

and implementation of action programmes, including financial cooperation[24]. Requirements relating to information collection, analysis, and exchange[25], as well as research and development[26], are set forth. In addition, Parties are to prepare national reports on the implementation of the Convention[27].

The Convention contains a set of regional implementation annexes, which contain more specific obligations. Those pertaining to Africa, Latin America and the Caribbean require national action programmes which set out to integrate and sustainably manage natural resources, including forests[28]. In the national reports submitted in 1999, many countries indicated that measures relating to forests were among those being taken to combat desertification[29]. However, since the Convention, which came into force on 26th December 1996, is still in the early phase of implementation, the COP has yet to consider forest-specific matters on its agenda.

One area in particular which requires close attention concerns traditional knowledge. Article 18 (2) stipulates that traditional knowledge should be protected, promoted and used, and a survey prepared by the Secretariat for COP-2 on this topic contains several provisions relating to forests[30]. A second key area concerns synergy with other international environmental treaties, and Parties have expressed that this should be an important goal for the Convention. For instance, a report prepared by the Secretariat emphasises that vegetation conservation is an important common thread through the Desertification, Biological Diversity and Climate Change conventions[31]. Specifically, the report suggests potential areas for synergy include capacity building, scientific and technical cooperation, financial cooperation and preparation of national strategies.

At COP-5, a report on the implementation of the Convention was considered. It concluded that :

"The Convention was found to be largely successful in raising awareness of the need for sustainable management of natural resources at grassroots level, but the interest raised must be sustained by appropriate action. Provisions for support must be earmarked within the UNCCD NAP (National Action Plan) for further awareness-raising activities and to sustain the participatory implementation of the Convention. More specifically, it is recommended that local area programmes be developed, identifying opportunities for synergistic initiatives to be taken on a territorial basis, at the grassroots level."

Thus, although the Convention's bottom-up approach is laudable, it appears that more needs to be done to fully implement it.

5 Ramsar Convention

As the title suggests, the Ramsar Convention aims to promote the conservation and wise use of wetlands considered as internationally important. The definition of wetlands is such as to encompass mangrove and peat forests, which are among the most threatened forest types[32]. The Convention currently has 130 Parties.

Every Party to the Convention is required to nominate at least one of its wetlands to the List of Wetlands of International Importance that meets one of the criteria set forth in the Convention[33]. Listed wetlands are to be conserved, while other wetlands are to be used wisely[34]. The Convention specifies that wetlands should have nature reserves on them, regardless of whether they are listed or not[35]. The Ramsar Convention has evolved from its original focus on wetlands as habitats for waterfowl to one that addresses broader issues of wetland destruction and wetland biodiversity.

In 1996, the Ramsar COP adopted a strategic plan for 1997–2002, which calls for priority attention to be given to the designation of new sites under-represented on the list, including, *inter alia,* mangroves[36]. At present, the Standing Committee is preparing a new draft Strategic Plan (2003–2008) to be presented for adoption at the next meeting of the COP. Among the operational objectives envisaged for implementing the strategic plan are the encouragement of active and informed participation of local communities and indigenous peoples in the conservation and wise use of wetlands, and promotion of the involvement of the private sector. Also on the agenda for COP-8 are proposed new guidelines for global action on peatlands, adopted recently by the Standing Committee.

Ramsar COP-7 adopted "guidelines for establishing and strengthening local communities' and indigenous people's participation in the management of wetlands". These urge "the Contracting Parties to create, as appropriate, the legal and policy context to facilitate indigenous people's and local communities' direct involvement in national and local decision-making for the sustainable use of wetlands, including the provision of necessary resources". In addition, pursuant to Resolution VII.9, the COP has adopted an Outreach Programme (1999–2002).

[23] Article 11.
[24] Article 13.
[25] Article 16.
[26] Article 17.
[27] Article 26.
[28] Article 8 (3) (b) (i) for Africa and Article 4 (c) for Latin America and the Caribbean.
[29] See for example reports from Greece and Zimbabwe.
[30] Note du secretariat, Synthese des Rapports sur les Connaissances Traditionelles, UN Doc. ICCD/COP (2)/CST/5, 6 octobre 1998.
[31] Note by the secretariat, Promotion and Strengthening of Relationships With Other Relevant Convention : Collaboration and synergies among Rio conventions for the implementation of the UNCCD, UN Doc. ICCD/COP (2)/7, 17 November 1998.
[32] Article 1.1.
[33] Article 2.
[34] Article 3.
[35] Article 4.
[36] Operational Objective 6.2.

The Ramsar Convention has been pivotal in seeking to create synergy with other conventions, including the CBD, CCD and UNFCCC[37], and recently concluded cooperative agreements with other conventions, notably the CBD, World Heritage Convention and CCD, and has a joint work plan with the CBD on inland waters.

6 Convention on International Trade in Endangered Species of Wild Fauna and Flora

The objective of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is to prevent the overexploitation of listed species caused by international trade. It employs controls on the market so as to eliminate threats to endangered species caused by international trade.

The Convention establishes three appendices, which classify species in accordance with their conservation status[38]. Species listed under Appendix I are the most endangered and therefore commercial international trade in them is highly restricted. Appendix II species may become endangered unless trade in them is controlled and, as such, export of Appendix II species must be preceded by a finding by the exporting Party's management and scientific authorities that the export will not be detrimental to the survival of that species. The scientific authority must also ensure that all exports of Appendix II species are limited in order to maintain that species throughout its range at a level consistent with its role in the ecosystems and above a level at which that species might become eligible for listing under Appendix I.

Approximately 800 species are listed on Appendix I and nearly 35,000 species are on Appendix II. While most Parties are bound by such listings, specific reservations may be entered at the time that a species is added to an Appendix, or at the point when a country becomes party to the convention. A Party with a reservation is considered a non-party with respect to trade in that species.

To date, some 15 timber or woody species have been placed on CITES appendices. Proposals to list endangered tree species that are harvested for their timber have been highly controversial, particularly where the species is of commercial importance, such as the Brazilian rosewood (*Dalbergia nigra*), listed in Appendix I, and the African teak (*Pericopsis elata*), listed in Appendix II. Some mahoganies are also included in the Appendices, such as Pacific coast mahogany (*Swietenia humilis*) and Caribbean mahogany (*S. mahagoni*), both included in Appendix II. Costa Rica and Bolivia have placed their populations of big leaf mahogany (*S. macrophylla*) in Appendix III, and other range states, including Brazil and Mexico, have pledged to do the same.

After a proposal by Bolivia and the USA to include big leaf mahogany on Appendix II was narrowly rejected for a third time, a decision was taken at COP-10 to establish a Mahogany Working Group. The purpose of the working group was initially to examine the status, management and trade of big leaf mahogany throughout the species' range. However, at COP-11 the terms of reference of the working group were revised to include a review of the effectiveness of Appendix III listings, an assessment of information management and the issues associated with legal and illegal trade, as well as a study of potential measures that might widen the scope of Appendix III listings.

In addition to disagreement over the role CITES should play in relation to timber species, there is also a degree of misperception about the effect of listing species. For example, the view prevails in some quarters that listing a species in Appendix II means that no trade can occur[39]. There has also been heated debate about the scientific evidence pertaining to the listing proposals. For example, the Plants Committee and the Secretariat have recommended at previous COPs that the Parties place *Swietenia macrophylla* in Appendix II, and yet these were rejected by slim majorities at COP-9 and COP-10.

At COP-9, the Parties decided to establish the Timber Working Group (TWG) to address some of the particular controversies surrounding these species. The TWG sought to identify implementation problems, clarify the meaning of "readily recognizable" parts and derivatives as it relates to trade in timber products, and examine the role of CITES vis-a-vis other international organizations. It has also helped inform members about the specific implications of CITES for the timber trade, and clarified CITES's implications for those more familiar with the timber trade and less familiar with CITES. The Parties adopted all of the TWG's recommendations at COP-10[40]. However, the TWG has not reconvened since COP-10 and the Standing Committee has subsequently recommended that it remain inoperational.

7 Assessment

This survey reveals that the major multilateral environmental agreements that relate to forests are continuing to develop in ways that will impact on forest conservation. The most relevant MEA continues to be the CBD, although much will depend on whether the forthcoming COP-6 will adopt a truly action-oriented programme of work on forest biodiversity. As noted above, the weakness of the current programme of work

[37] See Resolution VII. 4.

[38] Article II.

[39] It has even been reported that some developers have stopped using materials derived from Appendix II listed species for this reason. *See Increasing Public Understanding of the Role of the Convention in the Conservation of Timber Species,* Recommendation of the Second Meeting of the Timber Working Group of CITES, CITES Doc. SC.37.13, TWG.02. Concl.09 (Rev. 3) (1996). See also CITES COP Resolution Conf. 10.13, Implementation of the Convention for Timber Species.

[40] See Resolution Conf. 10.13, Implementation of the Convention for Timber Species.

is that it does not support specific policy outcomes. Thus, the next work programme should not only contain specific targets and timetables, but should also be supported by measures that assign specific personnel and funds to ensure it delivers concrete results. The impact of other MEAs on forests varies. Many of the key controversies in the Kyoto Protocol relating to sinks have been resolved, but further decision-making regarding the details of the treaty needs to take place before the relevant provisions can be implemented. The Convention on Desertification has the potential to support forest conservation, but it is still at an early stage. Ramsar is making progress in addressing the small number of important forest types under its remit. And while CITES has the potential to play a role in ensuring that trade is supportive of forest conservation, political divisions are still impeding its full impact.

In addition, the implementation of forest-related MEAs must be considered in conjunction with the results of the UN forest policy process - the UN Intergovernmental Panel on Forests and the Intergovernmental Forum on Forests, both of which included proposals relating to forest conservation[41]. These proposals are being further considered under the new UN Forum on Forests, whose next session will be devoted to forest conservation.

Another key message from the above survey is that the various initiatives and actions being pursued under the auspices of MEAs must be coordinated in order to effectively contribute to forest conservation. Synergy among forest-related MEAs should be enhanced through the new Collaborative Partnership on Forests (CPF) that was recently established under the UN Forum on Forests. However, it is too soon to say whether the CPF will succeed in ensuring that collaboration is truly enhanced between MEA secretariats, relevant international organizations, and their programmes and activities. Meanwhile, the actions under the Ramsar and Desertification Conventions aimed at enhancing international cooperation may serve as useful models for achieving synergy.

Public participation, and particularly the role of indigenous and local communities, is recognized as an essential element of all the foregoing MEAs. However, despite being a priority issue on the international agenda, it is apparent that efforts to involve all stakeholders in a meaningful way in forest conservation must be redoubled. Again, reference should be made to the national forest programme process that was developed under the IPF/IFF, which is intended to be participatory, iterative and holistic[42]. As such, national forest programmes have the potential, if properly implemented, to not only ensure effective public participation in forest conservation, but also to tie together the actions undertaken by states in implementing their obligations under MEAs.

[41] See for example Paragraph 10 of the IFF Proposals for Action.

[42] See for example Paragraph 17 of the IPF Proposals for Action.