

Small and medium forest enterprise

India



A discussion paper

Sushil Saigal
Sharmistha Bose

Discussion paper

Small and Medium Forest Enterprise in India

Sushil Saigal¹ and Sharmistha Bose¹

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¹Winrock International India, New Delhi

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Contacts:

Winrock International India
7 Poorvi Marg
Vasant Vihar, New Delhi 110 057, India
Tel. +91 11 2614 2965. Fax. +91 11 2614 6004. Email: sushil@winrockindia.org

Forestry and Land Use programme
International Institute for Environment and Development (IIED)
3 Endsleigh Street, London WC1H 0DD, UK
Tel: +44 207 388 2117, Fax: +44 207 388 2826, Email: james.mayers@iied.org

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Small-medium forestry enterprises for poverty reduction and sustainability

This study is part of a cross-country initiative coordinated by the International Institute for Environment and Development (IIED) with the above title.

Most international attention in forestry has been given to improving the conditions for large-scale or micro-scale forestry, and much less to the 'messy middle' - which produces a high proportion of forest product and involves huge numbers of people. Ways need to be found by which small and medium-scale forestry enterprises can better contribute to reducing poverty and improving the prospects for sustainability.

IIED, with partners in Uganda, South Africa, India, Brazil, Guyana and China have been investigating these issues. Country diagnostics show that the small and medium forestry enterprise "sector" is of major significance for livelihoods in these countries – the net effect of myriad small players represents a substantial part of local economies. Yet, these are largely "invisible" economies, and the SME sector is almost completely ignored in most policy and programme developments. Raising the sector's visibility such that its impacts can be better assessed, and then going on to explore how the positive links to sustainability, livelihoods and poverty-reduction can be enhanced, is a major challenge to which this initiative seeks to rise.

Reports in the series available from IIED on request, and downloadable from www.iied.org/forestry, include initial analyses of small-medium forestry enterprise issues in:

- Brazil
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Executive summary

This report is part of a cross-country research initiative that focuses on small and medium forestry enterprises and their potential contribution to poverty reduction and sustainability. It is based on a short scoping study, designed to gather background information, present key issues, and identify where further research will be most relevant and useful.

The research for this report was carried out by Winrock International India, New Delhi (WII), in collaboration with the International Institute for Environment and Development, London (IIED), who also coordinated the overall initiative. It builds on the findings of earlier research carried out under a WII/IIED collaboration, on 'Instruments for Sustainable Private Sector Forestry'. The India country study ("The new foresters: the role of private enterprise in the Indian forestry sector", by Saigal, Arora, and Rizvi, 2002) under this international initiative identified that whilst current policy sometimes restricts the activities of large-scale enterprises in the forestry sector (for example disallowing the development of large plantations on forestry land; opening up to cheap imports which render Indian products uncompetitive), there has been a significant expansion in activities in the small scale sector in recent years. Such activities include the collection, processing and marketing of non-timber forest products (including medicinal herbs), the production and marketing of timber by farmers, and the joint management and beginnings of commercial exploitation of forests by joint forest management communities. These and many other activities show that India has a diverse, active and growing small-scale sector, which also has the potential to contribute to livelihoods and sustainability.

The **small scale industry (SSI) sector** in India mirrors global trends in small and medium enterprises, which indicate that small and medium enterprises represent one of the fastest growing industrial sectors in the world. (Note that in India, while small enterprises are clearly defined, there is no clear definition of medium enterprises. The official category that corresponds to small enterprises is that of small-scale industries, or SSIs. In India, the SSI sector accounts for around 95 per cent of the industrial units, 40 per cent of the manufacturing sector output, 45-50 per cent of exports (directly and through export houses etc), and provides direct employment to more than 19 million people in around 3.4 million registered SSI units. It is estimated that each million rupees of investment in fixed assets in the small-scale sector leads to production of goods and/or services worth Rs.4.62 million annually, with an approximate value addition of ten percentage points. This sector also creates the largest employment opportunities outside agriculture. It is estimated that Rs.100,000 of investment in fixed assets in the small-scale sector generates employment for four people.

As regards the **small-scale forestry sector**, available information strongly indicates that the bulk of forest produce processing in India is carried out by small-scale forestry enterprises (SSFES), and that these enterprises play an important role in the national economy. As well as processing a wide range of products, SSFES are also involved in production of forest products. Amongst the diverse range of activities carried out by the Indian SSFE sector are production or collection of products such as fuelwood, poles and non timber forest products; their processing either by hand (e.g. leaf plate stitching) or by modern machinery, and marketing at every level ranging from barter at the local level to export to international markets. The sector produces a wide range of products such as poles, fuelwood, charcoal, sawn timber, furniture, veneer, plywood, blockboard, fibreboard, particle board, paper, safety matches, sports goods, handicrafts, herbal medicines and other non-timber forest products.

Due to the diversity of products, markets and policies, it is difficult to make generalisations for the entire SSFE sector. Still, there are certain features of the sector that are clearly discernible:

- While most of India's forests are owned by the government, the bulk of SSFEs are in the *private sector*. It is estimated that more than 90% of India's wood-based products are presently manufactured in the private sector.
- SSFEs are an *important player in the forestry sector*. For example, 98% of the sawmills in India are small, and they produce as much as 82% of the sawn timber. About 87% of plywood factories and 94% of paper mills also fall into the small enterprise category. It is estimated that the wood processing industries in India process about 24 to 30 million m³ of wood per annum, the bulk of which is processed by SSFEs.
- *Farmers and communities are important producers* though their contribution is not widely recognised or acknowledged. Joint forest management communities are now protecting over 18% of India's forests and half the industrial wood supply is coming from non-forest sources, mainly farms.
- There are many *very small enterprises that cater to local demand*. For instance, it is estimated that 2.1 million bullock carts are constructed each year, as are 50 million yokes, 100 million wooden ploughs and 30 million wooden seeders. Most of this demand is met by local artisans who utilise local raw materials and traditional skills.
- Generally SSFEs are by nature *location specific*, which is determined on the basis of the availability of resource, labour and markets. For instance, most safety matches are manufactured in Tamil Nadu, whilst the bulk of sports goods are manufactured in just two cities.
- SSFEs generate *significant employment* in India. While it is difficult to obtain national figures, available industry wise figures do indicate large-scale employment in this sector. It is estimated that 30-40 million people are directly or indirectly involved in the *beedi* industry, many of whom are *tendu* leaf collectors and beedi rolling workers. Nearly half a million people are employed in safety match making, sawmilling and wood carving.
- Some SSFEs also earn valuable *foreign exchange* e.g. medicinal plants and wood carving industries.

The **policy environment** for small scale industries in India is generally very favourable: SSIs enjoy protection as well as a number of concessions. A number of items are reserved for SSIs and they are entitled to special excise concessions, preferential treatment from banks for obtaining credit and various export incentives. However, with economic liberalisation and changes in the trade policy, SSIs have started facing increased competition from foreign companies. The labour law framework is also quite stringent though its implementation is rather weak.

As far as the forestry enterprises are concerned, there is a range of government policies, which are of relevance: these include the industrial, labour, trade, forest and environment policies. Some of these such as industrial and labour policies are generally applicable to all SSIs though in some highly labour intensive industries such as *beedi*, safety match making, etc. labour laws have much greater importance. SSFEs are more directly affected by forest and environment policies. While the access to forests has been increasingly getting difficult for the organised industry sector, new opportunities are emerging for household and community level enterprises e.g. through the Joint Forest Management programme.

The forest produce production enterprises (e.g. farm forestry plantations) face other restrictions, such as requirements of felling and transit permits and land ceiling laws. The policy environment also varies according to the industry. For instance, while there are special environment protection provisions for hazardous industries such as paper mills, certain trade restrictions are applicable to the medicinal plants and herbal medicine industry.

The great diversity of products that they produce and process makes it impossible to define **overall trends in small-scale forestry enterprises**. However, just examining three industries (small paper mills, lacquerware and safety match) show that there has been a general increase in activity in SSFEs, sometimes encouraged by government incentives, sometimes because of the inherent comparative advantages of small-scale units over larger ones – for example the ability of small-scale paper mills to make use of limited volumes of agricultural residues available locally. However, increased activity can also signal a change in the employment structure – for example in the lacquerware industry, increased mechanisation led to a greater proportion of men being employed. Finally the impression given by numerous small-scale enterprises can be misleading: they are not necessarily autonomous but might be controlled and owned by wealthy, powerful organisations – as is evident in the case of safety matches.

It is difficult to get a clear picture regarding **imports and exports of forest products**, as the data is categorised in such a way that often, several forest and non-forest products are clubbed together in one commodity class. However in general terms over the period 1996-2002, forestry imports have fluctuated between approximately 2% and 3% of total imports, whilst exports have always remained around 1% of total exports. Certain SSFEs such as wood carving industry and medicinal plants contribute significantly to exports while others such as sawmills, plywood and panel industry and paper industry uses significant quantity of imported raw material.

Like any other sector, there are a number of **opportunities and threats** facing the SSFE sector. The main opportunities available to the SSFE sector are:

- *Government incentive schemes*, which are available to SSIs in general.
- *Government protection measures* such as the reservation of a large number of items for exclusive purchase from SSIs.
- There are also several *emerging or rapidly growing markets* such as herbal medicines and packaging, where SSFEs can play an important role.
- *Dwindling supplies of raw material* from government forests on account of degradation and/ or green felling bans have also created opportunities for new producers such as farmers and communities.

The growth of farm forestry in certain areas e.g. the *Tarai* and coastal Andhra Pradesh has, in turn, opened up new opportunities for establishing *new processing industries* in these areas. For instance, a number of processing industries have been established in Yamuna Nagar (Haryana) due to the growth of farm forestry in the area.

The key *threats* faced by SSFEs in India are:

- *A growing shortage of quality raw material* due to felling bans and restrictions on extraction in several states. However, while this is certainly a threat to processing industries, as noted above it is actually also an opportunity for production enterprises such as farm forestry plantations.

- Growing *concerns over environmental and labour issues* are also significant threats. In recent years, many court rulings have also resulted in the closure of many forest produce processing industries on account of enhanced environmental concerns. The industries in the north-eastern states and the Andaman and Nicobar Islands have been particularly badly affected.
- Since economic liberalisation there has been *growing competition from cheap imports* and a trend towards removal of protective policies, such as reservation. Indian SSFEs are generally quite inefficiently run, the quality of products is poor and there is lack of standardisation – thus they are quite uncompetitive internationally.
- Stringent application of an international *intellectual property rights regime* is also likely to affect Indian SSFEs, especially processing industries, adversely.

There are a number of **federations and associations** that have been formed by forestry enterprises. While some focus their attention only on small enterprises, others have membership from across the industry. Most are focused on a particular industry or even a particular group within the industry e.g. *beedi* (country cigarette) workers. Most associations and federations act as pressure groups to further the interests and welfare of their members. Some even actively try to influence policies – for example the Indian Paper Makers Association lobbied in favour of leasing degraded forest lands. Workers' associations (which are usually affiliated to a particular political party) also try to influence policy decisions through actions such as conventions, rallies and protests – whether the issue be globalisation, the national minimum wage or the threat posed to the tobacco industry from bans on smoking in public places. However, not all associations are as active: some associations see their aim simply to “set rates” for payment to government inspectors and other officials.

This scoping study shows that whilst India's SSFE sector processes the majority of forest products and provides employment to millions of poor people, it has not received the attention it deserves. Within the forestry sector, the focus has traditionally been on large enterprises – yet there is clearly a **need for more research on small scale enterprises**. India has a very large number of poor (about 260 million) and indigenous peoples (about 80 million), many of whom depend on forest-based livelihoods. Millions of poor people earn their livelihood through fuelwood and non timber forest product collection, processing and sale. It is estimated that non timber forest product-based SSFEs alone provide up to 50% of the income of 20-30% of the rural labour force in India. Landless and poor women often form a significant proportion of the labour force in many SSFEs. Even among landed farmers, earnings from SSFEs usually improve their income security and reduce pressures that lead to over-exploitation of the agricultural land base. SSFEs also boost the local economy through local purchase of raw material e.g. farm grown timber from farmers, and improve the technical skills of the workers. It is anticipated that as the capacity of agriculture to generate additional livelihoods progressively declines, more and more rural people will turn towards employment in SSFEs and other small-scale enterprises in future.

SSFEs can play an important **role in improving rural livelihoods**, especially of the poor. This not only reduces pressure on scarce agricultural land but also decreases stress out-migration from rural areas into cities, where the poor often end up living in slums under sub-human conditions. Some of the characteristics of SSFEs that indicate their suitability for generating local livelihood opportunities for the poor and other vulnerable groups are:

- they are small in size and are often household based;
- they are predominantly rural and frequently seasonal;
- they are labour intensive and use simple technologies;
- they require very low capital inputs;
- they are accessible to low income and socially disadvantaged groups;
- they provide direct benefits to the local economy; and,
- women are heavily involved, often forming a majority of the labour force.

Yet the contribution of SSFEs to rural livelihoods as well as its potential in improving resource management is poorly understood and not adequately recognised by resource managers and planners alike:

- Those involved in collection and household level processing based enterprises (e.g. leaf plate stitching, rope making, etc.) face serious policy bottlenecks that limit their returns. For instance, most commercially important non timber forest products are nationalised and collectors are not allowed local processing for sale.
- Farmers, although now major producers of industrial wood in India, face constraints such as requirements for felling and transit permits and restrictions on growing and sale of certain forest products.
- Over 63,000 community groups are protecting and managing over 14 million hectares of forests (over 18% of all state forest lands). They have begun to produce millions of tonnes of forest produce annually but their production role has received scant policy attention. Many joint forest management groups are facing serious marketing problems and this is threatening the future of the entire joint forest management programme.

One reason for this poor understanding is that data is scattered and there is a **lack of aggregated information** at the national level. The information that is available is scattered in different departments and ministries, industry associations, etc. Published information is often out of date and contradictory; in addition, a large number of SSFEs are in the unorganised or informal sector for which no “official” data is available. The informal sector plays an important role in the economy but its role is often poorly understood or appreciated.

While, there is some understanding regarding enterprises based on “forest goods”, there is little or no understanding of the status or potential of enterprises based on “forest services” such as ecotourism, carbon trading, watershed services, etc. There is a need to sensitise planners regarding the potential of these services.

Considering the immense importance of SSFEs in improving the livelihoods of the poor as well as forest resource management, detailed research is needed to understand the current situation, potential and various opportunities and constraints including policy bottlenecks. Such research needs to be carried out each commodity-wise (e.g. paper, medicinal plants and cosmetics, etc.) as often each commodity group has its own unique set of issues.

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Sushil Saigal
Sharmistha Bose

New Delhi

Acronyms

AIMO	All India Manufacturers' Association
BOD	Biological Oxygen Demand
CITES	Convention on International Trade in Endangered Species
EDI	Entrepreneurship Development Institute
EH	Export House
EMS	Environment Management System
FICCI	Federation of Indian Chambers of Commerce and Industry
GOI	Government of India
ICFRE	Indian Council for Forestry Research and Education
JFM	Joint Forest Management
KVIC	Khadi and Village Industries Commission
MDA	Market Development Assistance
MoEF	Ministry of Environment and Forests
NABARD	National Bank for Agriculture and Rural Development
NAFED	National Agricultural Co-operative Marketing Federation
NCAER	National Council of Applied Economic Research
NMPB	National Medicinal Plants Board
NPMO	National Platform for Mass Organisations
NTFP	Non Timber Forest Produce
QMS	Quality Management System
SIA	Secretariat for Industrial Assistance
SIDBI	Small Industries Development Bank of India
SIDC	Small Industry Development Corporation
SIDO	Small Industry Development Organisation
SFC	State Financial Corporations
SIL	Special Import Licence
SME	Small and Medium Enterprises
SSFE	Small-Scale Forest Enterprises
SSI	Small-Scale Industry
SSTH	Super Star Trading House
STH	Star Trading House
TBSE	Technology Bureau for Small Enterprises
TH	Trading House
TRIFED	Tribal Cooperative Marketing Federation
WTO	World Trade Organisation

Glossary of Indian terms

agarbattis	incense sticks
attar	perfume made out of essence
beedi	country cigarette
cutch	from the <i>Acacia catechu</i> tree, used for dyeing canvas and tanning leather
katha	from the <i>Acacia catechu</i> tree, an ingredient in <i>paan masala</i>
khadi	handloom
khus tattis	grass mats
mesta	<i>Hibiscus sabdariffa</i>
paan	betel leaf
paan masala	chewing confectionary wrapped in betel leaf
rosin	one of the two major products of distillation of pine resin; the other one is turpentine oil
Vaidyas	ayurvedic doctors

1. Small-scale forestry enterprises in India: a brief overview

1.1 Introduction to small-scale enterprises in India

Small and Medium Enterprises (SMEs) represent one of the fastest growing industrial sectors in the world. Their contribution to employment, innovation and economic growth is being increasingly recognised. SMEs constitute an overwhelming majority of all businesses in most countries e.g. over 99% in Canada, United Kingdom and Switzerland and about 90% in Korea and Malaysia (FICCI 2002).

In India, while small enterprises are clearly defined, there is no clear definition of medium enterprises (FICCI 2002). The official category that corresponds to small enterprises is that of small-scale industries, or SSIs

An SSI unit is broadly defined in terms of value of investment in plant and machinery. At present, a unit which has investment in plant and machinery up to Rs.10 million is defined as an SSI unit¹ (NCAER 2001). A unit with an investment of up to Rs. 2.5 million is considered a tiny enterprise. In the case of service and business enterprises, the investment limit is Rs. 1 million for fixed assets excluding land and buildings (www.smallindustryindia.com).

Some industries are defined as "village industries" under the provisions of the Khadi and Village Industries Commission Act, 1956 (as amended up to 1987). The definition of a village industry is as follows²:

"Any industry located in a rural area which produces any goods or renders any service with or without the use of power and in which the fixed capital investment per head of an artisan or a worker does not exceed fifteen thousand rupees or such other sum as may, by notification in the official gazette, be specified from time to time by the Central Government" (www.kvic.org.in).

The Ministry of Small-Scale Industries and Agro and Rural Industries is the nodal ministry for policy formulation, promotion, development and protection of small-scale enterprises. The Small Industries Development Organisation (SIDO) under the Ministry of Small-Scale Industries and Agro and Rural Industries is the agency which performs the role of advocacy, handholding and facilitation for the small-scale sector. The khadi and village industries are looked after by the Khadi and Village Industries Commission (KVIC). A list of forest enterprises that come under the purview of the Khadi and Village Industries Commission is provided in Box 1.

¹ The ceiling for qualification as a SSI unit keeps on changing. The ceiling was raised from Rs. 6 million to Rs. 30 million on 10 December 1997 but was subsequently reduced to Rs. 10 million on 24 December 1999 (NCAER 2001).

² *Khadi* industries refer to the handloom sector.

Box 1: Forest-based enterprises under the Khadi and Village Industries Commission's purview

Handmade paper
Manufacture of *Katha* (*Katha* is used as an ingredient of *paan* (betel leaf) and *paan masala* chewing confectionery in India)
Manufacture of gums and resins
Manufacture of shellac
Cottage match industry, manufacture of fireworks and a *garbattis* (incense sticks)
Bamboo and cane work
Manufacture of paper cups, plates, bags, and other paper containers
Manufacture of exercise book binding, envelope making, register making, including all other stationery items made out of paper
Khus tattis (grass mats) and broom making
Collection, processing and packing of forest products
Photo framing

Source: www.kvic.org.in

Other key organisations are the National Small Industries Corporation and the National Institute of Small Industry Extension Training (www.smallindustryindia.com). The SSI sector in India mirrors the global trends in SMEs and accounts for around 95 per cent of the industrial units, 40 per cent of the manufacturing sector output, 36 per cent of exports, and provides direct employment to 18 million persons in around 3.2 million registered SSI units in the country (NCAER 2001).

1.2 Small-scale forestry enterprises in India

The forestry enterprises in India, which produce a wide range of products, have traditionally been in the private sector. While there are a few government owned enterprises, the bulk of the processing of forest products is carried out in the private sector.

It is quite difficult to get an accurate overall picture of the total number of forestry enterprises in the country or their output due to lack of adequate information. However, a few estimates are available. The ICFRE has estimated that there are 4,235 wood-based factories in India (ICFRE 2001). The National Forestry Action Programme document has listed the number of medium and large wood-based industries in the country (see Table 1).

Table 1: Number of units of medium and large wood-based industries

<i>Industry</i>	<i>Number of units</i>
Paper mills	21
Newsprint	5
Rayon grade pulp	5
Paper grade pulp	1
Paper board	305
Plywood	61
Veneer	14
Blockboards and flushdoors	98
Particle board	11
Fibre board	5
Safety matches	5

Source: *Gol 1999*

It is even more difficult to get disaggregated data regarding small-scale forestry enterprises (SSFEs). However, estimates for certain specific industries are available, which can help in gaining an understanding of the sector. In this section, we have compiled and presented information regarding some of the major SSFEs, through which we have attempted to reflect the status of the sector in general. A more comprehensive field-based survey required to collect in-depth and up-to-date information was beyond the scope of this paper. The available information strongly indicates that the bulk of forest produce processing in India is carried out in the SSFEs and these enterprises play an important role in the national economy.

Box 2: Role of the unorganised sector

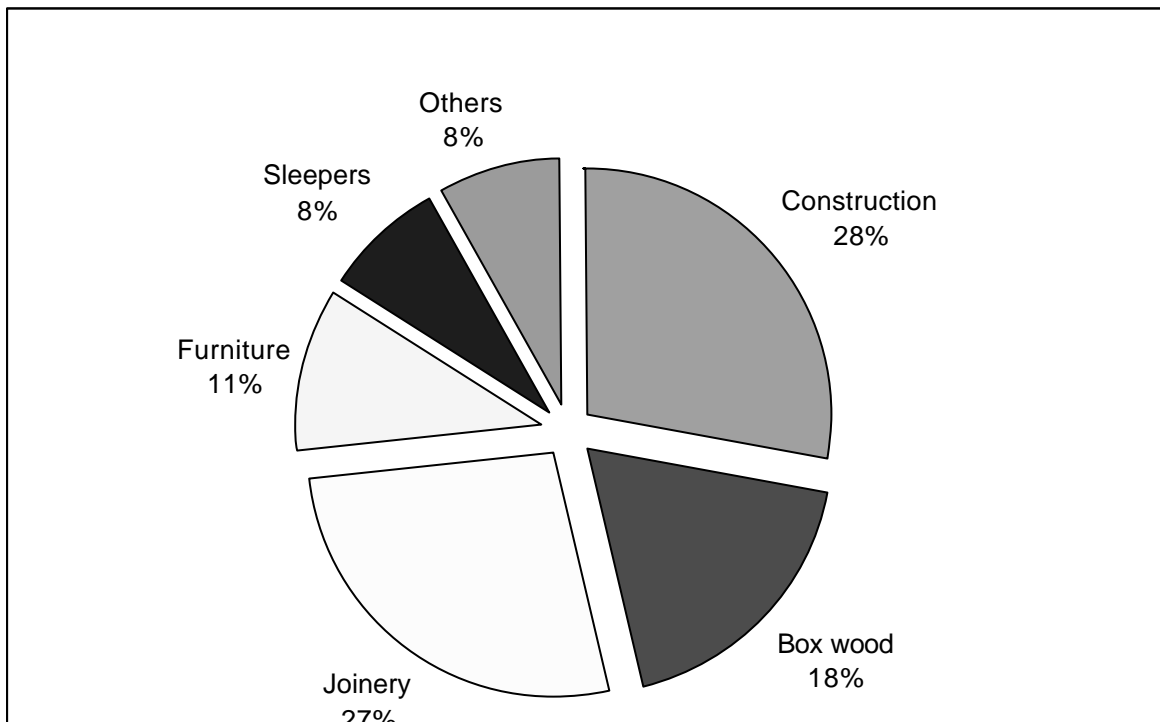
A large number of small enterprises are in the unorganised/informal sector, which in spite of making a significant contribution to production and employment, operate without proper recognition from the government. These units are not covered under the Factories Act, 1948 (NCAER 2001). This presence of a large number of unorganised sector units makes an accurate assessment even more difficult.

A study of the small-scale informal forestry sector, undertaken in two districts (Yamuna Nagar in Haryana and Rajkot in Gujarat) revealed that a significant proportion of wood-based enterprises are in the informal sector and as such their contribution may not be properly reflected in the official statistics. It was found that about 27% of the total forest-based enterprises in Yamuna Nagar and as many as 98% in Rajkot were operating informally. The study found that while very few (less than 5%) of units manufacturing products such as veneer and plywood were informal, most (92.5%) of the units engaged in manufacturing truck and bus bodies were operating informally. Around 38% of units manufacturing items such as packing boxes, furniture and fixtures, cable drums, agricultural implements etc. were also found to be informal. Another activity where a significant number of informal units exist is saw-milling. As many as 44% of the sawmills in Yamuna Nagar and 92% in Rajkot were found to be operating informally. In Yamuna Nagar, around 7% of the total raw material used (in value terms) in the district was consumed by the informal sector. In Rajkot, this figure was around 93%. The informal sector spent around Rs. 191 million on raw material procurement in Yamuna Nagar, and Rs. 119 million in Rajkot (NCAER 2001).

This section presents information on selected SSFEs.

1.2.1 Sawmilling

It is estimated that there are around 23,000 sawmills in the country and 98% of these are in the small category with annual log intake up to 3,000 m³ (Gol 1999). Annual production capacity is estimated at 27.12 million m³ (Gol 1999) but capacity utilisation is estimated to be between 50% (Tewari 1995) and 64% (Gol 1999). The survey conducted in the late 1970s indicated that 1,39,650 workers were employed in the sawmilling industry at the time (Maccinnes 1979, in Tewari 1995). It is estimated that small sawmills account for 82% of the total sawn timber in the country (Tewari 1995). The main uses of the sawn wood are as depicted in the following graph:



Source: Gol 1999

Figure 1: Main uses of sawn wood produced by sawmills

1.2.2 Safety matches

There are approximately 12,000 safety match making units in the country, and all except five are in the small-scale and cottage industries category. 82% of the production is in the small-scale and cottage sectors.³ The industry as a whole employs 250,000 people out of which only 6,000 are in the large-scale mechanised sector.

Over two-thirds of India's matches are produced in just two districts - Ramanathapuram and Tirunelveli, both in Tamil Nadu. The bulk of the wood comes from neighbouring Kerala, where there are over 400 small-scale units making veneers and splints for supply to the match industry. This ancillary industry employs over 15,000 people directly and indirectly and produces goods worth Rs. 150 million annually (Tandon 1991).

1.2.3 Wood-based panels

There are three major wood-based panel products that are manufactured in India - plywood, including veneers, blockboards and flush doors; fibreboard; and particle board. SSFEs play an important role in the manufacture of these products. According to an estimate made a few years ago, there were 480 plywood factories in the country, of which 418 (87%) were in the small-scale sector (Federation of Indian Plywood and Panel Industry n.d.).

³ Officially, the cottage industry in match making is defined as any manual production unit producing less than 75,000 cases of match boxes per year.

In 1985, there were 14 decorative veneer units with an installed capacity of 32.9 million m². It is not known, however, how many of these were in the small-scale sector (anonymous 1985, in Shukla and Singh 1994). The current annual capacity of decorative veneer units is estimated to be 32,857,000 m² (Federation of Indian Plywood and Panel Industry n.d.).

In 1985, there were 98 units that were producing flush doors and blockboards with an annual production of 7.6 million m². Out of these, 60 were small-scale units that accounted for nearly a quarter of production (Tewari 1995).

In 1993, there were 11 particleboard manufacturing units in the country with a total installed capacity of 85,134 tonnes, whilst licences for six more units had been granted with an additional capacity of 87,600 tonnes. There were three fibreboard mills in India with a total installed capacity of 57,140 tonnes. In addition, there were two units manufacturing medium density fibreboard with an installed capacity of 65,400 tonnes. Fresh licences had also been granted to one hardboard plant with of 20,000 tonnes capacity and seven medium density fibreboard plants with a total capacity of 207,000 tonnes (Tewari 1995). The total annual capacity of particleboard and fibreboard units at present is estimated to be 207,674 metric tonnes (Federation of Indian Plywood and Panel Industry n.d.).

1.2.4 Wood working

Wood working is a traditional industry in India producing furniture, doors, windows, panels, sports goods, handicrafts, shoelasts and heels, textile mill accessories (bobbins and shuttles), etc. In addition, truck and bus body building and the manufacture of agricultural implements are also important wood-based industries which consume a large quantity of wood. It is estimated that construction of the body of each truck consumes 6.25 m³ of sawn timber. A study in Yamunanagar revealed that over 7% of the total SSFEs were auto body building units (NCAER 2001). A large number of wooden agricultural implements are manufactured each year. Most of the work is done in small-scale units or by individual artisans. According to an estimate, the total annual consumption of wood for this purpose was around 4 million tonnes and there were 54,975 wood working units in the small-scale sector (Tewari 1995). Further details of selected wood working industries are provided in this section.

1.2.4.1 Sports goods

According to an estimate made in 1986, there were 1,500 registered sports goods units, out of which three-quarters were in Punjab, Uttar Pradesh and Jammu and Kashmir. Nearly half the units were located in two towns, Jullundhar and Meerut. Around 85% of the units were in the small-scale sector. The main raw materials used were willow, cane, mulberry, maple, ash and rosewood (anonymous 1986, in Tewari 1995). According to projections made by the Forest Survey of India, the total wood demand for the sports goods industry was estimated to be 101,000 m³ in 2000 (Tewari 1995).

1.2.4.2 Pencils

According to an estimate made a few years ago, India produced around 1.5 million gross (216 million) pencils every year, for which roughly 14,200 m³ of timber in round form was used. Earlier American Cedarwood was used for pencil manufacture, which has been replaced by indigenous species (Tewari 1995).

1.2.4.3 Wood carving

India has a well-developed traditional wood carving industry. The major wood carving centres are located in the states of Uttar Pradesh (Saharanpur and Nagina), Rajasthan (Jodhpur), Arunachal Pradesh (Tirap), Gujarat (Surat and Mahuva), Kerala (Kochi, Ernakulum, Trichur and Thiruvananthapuram), Jammu and Kashmir, and Madhya Pradesh. In India, there are approximately 90,089 carving centres and the number of registered artisans is reported to be 2,60,933 (NCAER 1995-96, 1999-2000, 2000-2001, in WWF 2003) (see Annex 1). The actual number of artisans is perhaps higher: for example in Kerala, while there are 3,419 registered artisans, a survey by a private organisation revealed that there were 6,000 wood artisans in Thiruvananthapuram alone (Techno Economic Services 1997, in WWF 2003). The number of people indirectly involved in the industry is much higher. For instance, in Saharanpur District of Uttar Pradesh, it is estimated that while 50,000 to 87,860 people are directly involved in wood carving industry, about 350,000 people are indirectly dependent on it (CIFOR 2002, in WWF 2003; and WWF 2003).

The industry gets its raw material from the Forest Department as well as farmers.⁴ The consumption is high. In Saharanpur alone, it is estimated that around 25 truck loads of wood are consumed per day by the industry, which translates into roughly 3.2 million ft³ per annum. It is estimated that 70,800 ft³ of wood is consumed by the industry in Kerala. The main products made are boxes, figurines, idols, jewellery boxes, incense boxes and stick holders, candle stands, photo frames, coaster sets, letter racks, stationery holders, pipe stands, tobacco jars, tables, screens and carved furniture (WWF 2003).

Exporters play a key role in the industry. They obtain orders from foreign buyers and get the products manufactured in their own units. If they are unable to produce the volumes required, they outsource some production to artisans on a contract basis. India is one of the largest producers of wood carved products in the world. Exports amounted to Rs. 4.344 billion in 2000-01. The main importing countries are the United States (25%) and the United Kingdom (12%) (see Annex 2).

1.2.4.4 Paper

Paper and paperboard production is an important forest-based industry in India. It is estimated that in 1993, there were 380 paper mills functioning in the country, of which 359 (94%) were small mills having an installed capacity of less than 30,000 tonnes per annum⁵ (Pradhan and Barik 1999). The current capacity-wise breakdown of the industry is shown in Table 2:

⁴ The main species used are: *Dalbergia sissoo* in Saharanpur; *Dalbergia sissoo* and mango in Jodhpur; *Wrightia coccinea* in Tirap; and sandalwood, *Dalbergia latifolia* and teak in Thiruvananthapuram (WWF 2003).

⁵ The definition of a small mill is as follows:

- i) The mill should be based on utilisation of secondary raw material such as non-wood fibres such as cereal straw, grass, mesta, sugar cane bagasse, etc. and/or recycled waste paper.
- ii) The installed capacity should not exceed 26,400 tonnes per annum.
- iii) Such mills should not possess bamboo/ wood pulping plants.

It also needs to be pointed out that small mills may not be in the "small-scale" sector as defined by the government as the investment in even small mills is reasonably high. Most of the small-scale units are cottage units engaged in manufacture of handmade paper, boards etc. and are referred to as the unorganised sector (Rao 1989).

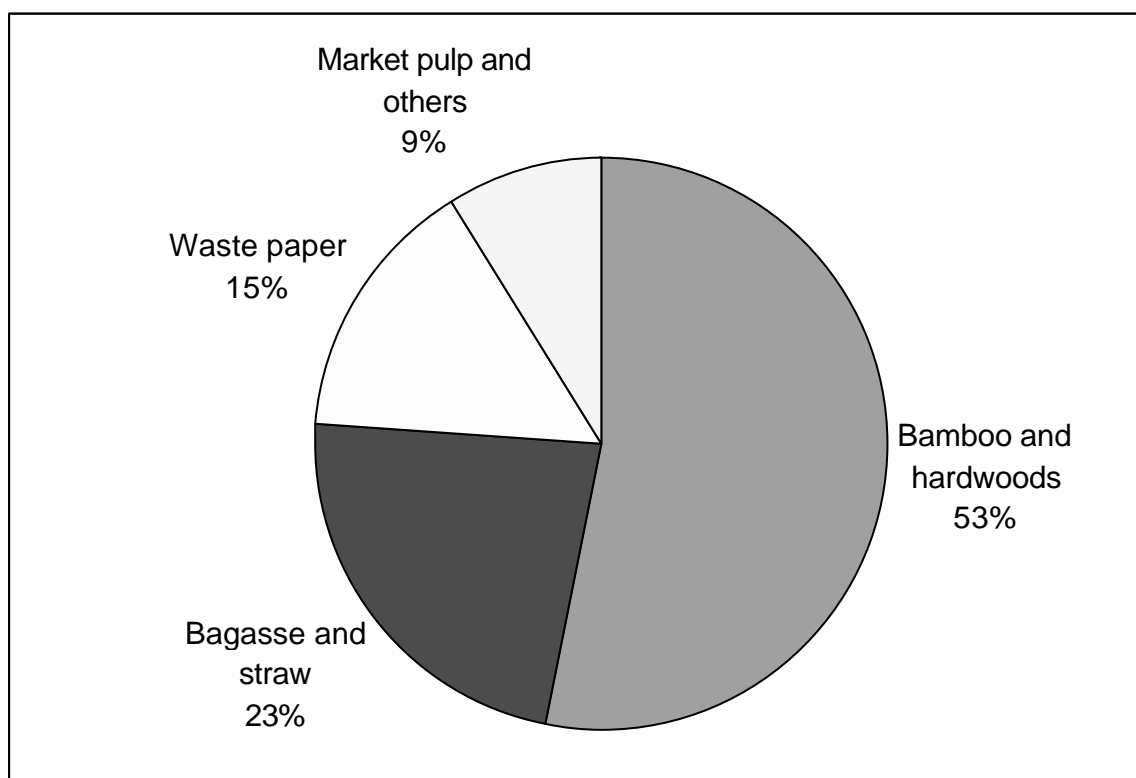
According to another definition, mills having an installed capacity above 33,000 tonnes per annum are classified as large, those having an installed capacity between 5,000 and 33,000 tonnes as medium, and those having an installed capacity up to 5,000 tonnes as small (<http://indiainfoline.com/sect/pper/cho3.html>).

Table 2: Capacity-wise breakdown of Indian paper and pulp mills

Installed capacity (tonnes/ annum)	Number of mills
Up to 5,000	140
5,001 to 10,000	112
10,001 to 20,000	88
20,001 to 33,000	32
33,001 and above	34
Total	406

Source: Indian Agro Paper Mills Association (IAPMA), New Delhi
<http://indiainfoline.com/sect/pper/cho3.html>

The total installed capacity for paper and paper board is estimated to be 3.9 million tonnes but the actual production is about 2.6 million tonnes (Gol 1999). It is estimated that presently 66% of the installed capacity is in small units (Pradhan and Barik 1999). Considering these two different estimates together, it suggests a production capacity of 2.6 million tonnes and actual production of 1.7 million tonnes in the small units. Most of the small units use agricultural waste and waste paper as raw material. The current mix of raw material in the industry is as shown in the following graph:⁶



Source: Gol 1999

Figure 2: Raw material mix of the paper industry, 66% of which is consumed by SSFEs

⁶ According to another estimate, the industry's break-up based on raw material use is as follows: wood/forest based - 43%, agro-based - 28% and waste paper based - 29% (<http://indiainfoline.com/sect/pper/cho3.html>).

Before economic liberalisation, newsprint was manufactured only in the public sector. However, since 1994, 30 new private mills have come up, mostly in the small-scale sector (<http://strategis.ic.gc.ca/SSG/dd71813e.html>).

The handmade paper industry, a traditional craft, is a recognised village industry under the Khadi and Village Industries Act and receives special assistance from the Khadi and Village Industries Commission (KVIC). It generally utilises textile fibre derived from rags, gunny bags, cotton linters and other waste material. According to an estimate made a few years ago, the total annual production of handmade paper by the cottage industry was just 5,000 tonnes with a sale value of around Rs. 40 million. Most of this paper is used for greeting cards and certain stationery items (Rao 1989).

1.2.5 Non-timber forest products

India's forests yield a large number of diverse Non-Timber Forest Products (NTFPs). Estimated annual production of some of the commercially important NTFPs is given in Table 3.

Table 3: Estimated annual production of selected NTFPs

Product	Annual production, 1992-93 (in tonnes)
Wild edible products	101,200
Myrobalans	132,250
Sal (<i>Shorea robusta</i>) seeds	709,700
Mahua (<i>Madhuca latifolia</i>) seeds	697,600
Neem (<i>Azadirachta indica</i>) seeds	115,000
Other seeds	57,500
Essential oils	3,160
Gum karaya (from <i>Sterculia urens</i>)	15,000
Resin from pine	45,000
Katha	5,750
Tans and dyes including cutch	222,900
Bamboo	4,716,600
Fibres and flos ses	15,000
Beedi leaves	360,000
Lac	30,000

Source: Gol 1999

There are a number of industries based on NTFPs such as *beedi* (country cigarette), lacquerware, brooms, essential oils, katha and cutch, tannins, resin and rosin, cane and bamboo furniture, herbal medicines and cosmetics, etc. It is estimated that NTFPs worth Rs. 350 billion are used annually in India and the government revenue from NTFPs is around Rs. 20 billion, nearly 50% of the total forest revenue. Total NTFP exports (raw material as well as finished products) were estimated to be US\$ 480 million in 1991 (Gol 1999). Further details of selected NTFP based industries are provided in this section.

1.2.5.1 Beedi (country cigarettes)

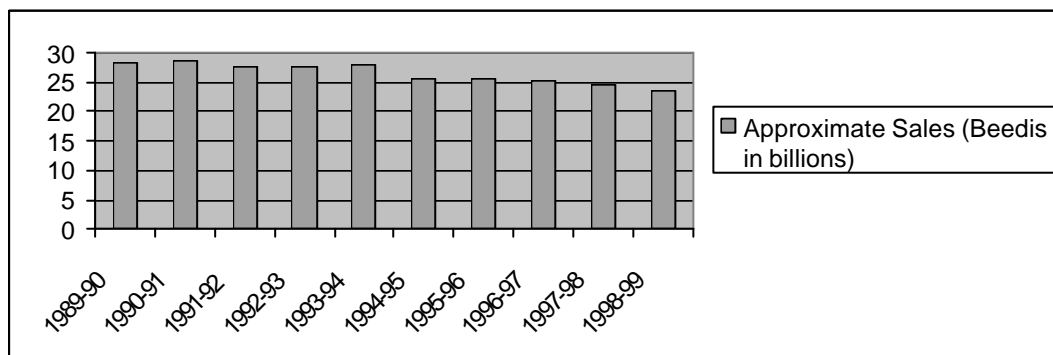
Beedi is a local cigarette that is made by rolling tobacco into tendu (*Diospyros melanoxylon*) leaves. It is estimated that about 550 billion pieces of *beedi* are sold annually in India (Joshi 2003). *Beedi* smoking is the most prevalent form of tobacco use among Indians - around 54% of tobacco is used in *beedis*, 27% is used as chewing tobacco and the balance 19% is used in cigarettes (AIMO n.d.). The *beedi*-making industry has an annual turnover of Rs.190 billion,

gives an excise revenue of Rs. 6.5 billion and exports products worth Rs. 8.06 billion (*Business Line Internet Edition*, 19 January 2001).

The *beedi* industry employs a large number of workers directly and many more are indirectly involved, especially in the collection of *tendu* leaves. The estimates of workers involved in the industry vary from 3 million (www.uohyd.ernet.in/sssdhistory/beedi/beedi.html) to 10 million (Joshi 2003). It is estimated that over 30 million people are indirectly dependent on the *beedi* industry (*Business Line Internet Edition*, 19 January 2001). The employment generated through *tendu* leaf collection is very valuable for the poor, especially tribal, collectors as these leaves are collected during the summer months, which are otherwise a lean season from the employment perspective. Madhya Pradesh and Chhattisgarh are largest *tendu* leaf producing states (41%) followed by Orissa (17%), Maharashtra (15%) and Andhra Pradesh (13%). The value of *tendu* leaves harvested for making *beedis* is estimated at Rs. 15 billion annually (AIMO n.d.). It is estimated that 350,000 tonnes of leaves are harvested annually and 4,700 tonnes are exported (Gol 1999).

The majority of *beedis* are rolled by women and child workers, who are generally paid on piece rate basis by sub-contractors of the *beedi* manufacturers. It is estimated that a woman worker earns about Rs. 50 for rolling 1,000 *beedis* (Shamantha n.d.).

The trade in *beedis* is reported to be declining due to increased competition from chewing tobacco (*guthka*). The production figures for one *beedi* manufacturer illustrate this trend (see Figure 3). Some of the industries have also shifted base from Madhya Pradesh – a major *tendu* producing state - to neighbouring states like Maharashtra due to a hike in minimum wages by the Madhya Pradesh state government (Joshi 2003).



Source: Joshi 2003

Figure 3: Sales trend of Ganesh beedis

1.2.5.2 Katha and cutch

Katha and cutch are products made from the heartwood of *Acacia catechu* tree. *Katha* is used as an ingredient of *paan* (betel) and *paan masala* chewing confectionery in India. *Cutch* is used for dyeing canvas and tanning leather. According to an estimate made a few years ago, 3,000 tonnes of *katha* was produced annually in India, of which 2,000 tonnes was produced in the factory sector, which also produced 4,500 tonnes of *cutch*. The total consumption of wood was estimated to be around 200,000 m³ (round) (Tewari 1995).

1.2.6.3 Lac

Lac is produced from the secretions of a tiny insect *Laccifer lacca* Kerr., which is a parasite on a number of wild and cultivated plants. India is an important producer of lac and lac products. The present production of lac is about 15,000 metric tonnes, which is much less than the peak production of 91,199 metric tonnes achieved between 1978 and 1979. Lacquerware and lac turnery is a traditional industry based on lac. It is estimated that in Channapatna Taluka of Karnataka, over 35% of the workforce is engaged in lacquer work (Bahuguna and Shiva 2002). Annual production in 1991 was estimated to be Rs. 30 million, of which 70% was exported, 2% was sold through Karnataka Handicrafts Development Corporation and the balance 28% was sold in the local market (Campbell 1991). It is estimated that lac exports in 2001-02 were worth Rs. 652 million (Bahuguna and Shiva 2002). The production trend of lac is shown in Table 4.

Table 4: Production trend of lac in India

Year	Quantity (tonnes)	Value (Lakh ⁷ Rs.)
1997-1998	8,916.21	5,480.73
1998-1999	8,032.24	5,857.14
1999-2000	6,516.85	7,371.04
2000-2001	9,054.12	12,038.00

Source: Bahuguna and Shiva 2002

1.2.5.4 Bamboo and rattan products

There are a number of SSFEs manufacturing bamboo and rattan based products. The main products manufactured from bamboo are handicraft items such as table mats, trays, lampshades and other household articles. Reed bamboo based traditional industries, such as mat and basket weaving, play a crucial role in the rural economy. Many tribes and ethnic groups (*Bhanjaras*, *Bansforias*, *Kamars*, *Kotwalias*, etc.) earn their living through bamboo handicraft work. Recently some bamboo mat board manufacturing units have also been established (Bhat n.d.). It has been estimated that bamboo based SSFEs provide livelihoods to more than 300,000 village people in Kerala state alone (Nair 1986, in Bhat n.d.).

Rattan (cane) extraction and utilisation in India is, by and large, a cottage industry. It is estimated that there are around 2,000 small to medium sized rattan-based industrial units in India, employing over 200,000 people, some in the manufacture of a variety of handicraft items and furniture, and the rest predominantly in the rural areas in extraction, cleaning, processing and transportation.

The rattan furniture industry produces goods worth Rs. 50 million annually. About 10% of the goods are exported. The cottage units are generally located near the rattan growing forests in three regions: South India, East and North East India, and the Andaman and Nicobar Islands. The larger units are in urban areas such as Kolkata, Chennai, Delhi, Mumbai, Bangalore, Hyderabad and Jullundhar (Bhat n.d.).

⁷ 10 Lakh = 1 million

1.2.5.5 Broom making

A large quantity of brooms are used in India annually and most are made from grasses (such as *Thysanolaena maxima*), palms (such as *Phoenix acaulis*) and bamboos. Broom making is an important forestry enterprise in several parts of the country. For instance, a survey conducted in two blocks of Mandla district in Madhya Pradesh showed that there are several household based broom making enterprises in the area (Bhatnagar, Shrivastava and Sharma n.d.).

1.2.5.6 Essential oils

Oils originating from plants are used for perfumery and similar purposes. These are derived from grasses, wood, leaves, roots and flowers. There are a number of tree and plant species which yield oil but only a few are commercially exploited for extracting essential oils. These essential oils are major raw materials for soaps and cosmetics, pharmaceuticals, confectionery, aerated water, *attars*, scented tobacco, *agarbattis* and incense industries. These are not only important for the domestic market but have a growing market in other countries as well. While disaggregated export data is not available, the total exports under the category “essential oils and resinoids; perfumery, cosmetic or toilet preparations” were to the tune of Rs. 47.166 billion (www.commerce.nic.in).

1.2.5.7 Resins

There are a number of resins derived from plants of which sal resin, pine resin and turpentine, salai or guggal and balsam resins are commercially important. Production of resins and processed products was estimated to be 30,300 tonnes in 1961-62 and had risen to 74,200 tonnes by 1975-76 (Gupta and Guleria 1982). Production has fallen since then. Production of oleoresin (from *Pinus roxburgii*) was estimated to be 35,000 tonnes in 1985-86 and only 28,000 tonnes in 1995-96. The main reason for the decline in production is unscientific and indiscriminate tapping of trees, and frequent fires in pine forests resulting in heavy mortality of trees (Rawat 2001). Another possible reason is the availability of chemical substitutes.

1.2.6 Herbal medicines

The Indian system of medicine comprises Ayurveda, Siddha and Unani systems. The supply base of medicinal plants used for manufacture of traditional medicines is largely from the wild. It is estimated that around 80% of the medicinal plants active in trade are procured from wild areas, mostly notified as forest land (Gupta 1993; Ahmed 1993; FRLHT 1996 in Subrat, Iyer and Prasad 2002).

Ayurveda is the major system followed in India. The Ayurvedic manufacturing units can be broadly classified into two groups:

- the ‘organised’ sector, comprising well-established manufacturers who operate in both domestic and/ or international markets. These could be large or small units. Often a small manufacturer can be considerably strong in a niche market.
- the ‘unorganised’ sector, comprising mainly practising ayurvedic doctors (*vaidyas*) and micro-units manufacturing only a few products and operating at local levels.

A directory published in 2003 lists 2,534 manufacturers of herbal medicines (Rawal 2003). However, the actual number of units is likely to be much more as there are many unregistered units. The large number of manufacturing units can be attributed to comparatively low

infrastructure costs, access to raw material, simple manufacturing processes and lack of standardisation of quality and efficacy of medicines.

It is estimated that the total annual turnover of the ayurvedic industry is around Rs. 45 billion, although the figures are uncertain due to the large number of micro-units (Subrat, Iyer and Prasad 2002). Another estimate puts the total trade in medicinal plants in India to be in the order of US\$ 5.5 billion (NMPB 2002).

Exports of medicinal plants and products from India have been estimated to be between Rs. 3.16 billion (2000-01) (Rawal 2003) and Rs. 4.46 billion (2000) (NMPB 2002). By far the most important export is Psyllium husk⁸ that accounted for 63.3% of the value of all exports in 2000-01 (Rawal 2003). The major importing countries are USA, Germany, France, Switzerland, UK and Japan (Planning Commission 2000, in NMPB 2002).

In addition to organised enterprises, of which some examples have been given above, NTFP collection and its barter/ sale (with or without processing) is also an important household level activity in most forested parts of India. It is an important source of cash income/ bartered products (e.g. salt) for the poor, especially in the lean season. A large number of people are engaged in fuelwood collection and sale across the country. A survey of 170 households in nine villages in Bihar showed that fuelwood sale served as a major source of income for 20% of the households (World Bank 1993). In some areas, so many people are engaged in this activity that fuelwood is regularly carried in local trains for sale in the towns. NTFP collection and processing is another source of cash income. Many people collect and sell grasses for fodder, thatching or rope making. It is estimated that in the Saharanpur District of Uttar Pradesh, around 200,000 people derive a major part of their livelihood from *bhabbar* grass (*Eulaliopsis binata*) harvesting and processing (Poffenberger and Sarin 1995). Leaf plate stitching is an important enterprise in many parts of the country, especially eastern states. A survey carried out in nine villages in West Bengal showed that 72% of the households were engaged in stitching leaf plates from sal leaves. This activity alone generated nearly half the households' income (Dutta and Adhikari 1991). A study conducted in seven villages spread over four districts in Orissa revealed that as many as 91% of men and 98% of women were engaged in NTFP collection from forest areas. For many, especially women, NTFP collection was found to be the primary occupation. Households having an annual income of less than Rs. 3,000 derived 50% of their earnings from NTFPs, whereas those earning over Rs. 6,000 derived 21% from NTFPs (Malik 1994).

1.2.7 Farm-based production enterprises

In recent years, farmers have emerged as major suppliers of wood, especially as the supplies from the state forests have declined due to a greater emphasis on conservation and the imposition of a green felling ban in several states.

There are 105.29 million operational holdings in the country. While it is not possible to determine the number of farmers engaged in farm and agro-forestry, their involvement is substantial as it is estimated that 50% of India's wood supply is currently coming from non-forest sources (Gol 1999). Farmers mainly grow block or field bund plantations of commercially valuable fast growing species such as eucalyptus, poplar, acacias, casuarinas, *Leucaena*, etc.

A study carried out in two districts where farm forestry is popular showed that farmers of these districts (Prakasam and Uddham Singh Nagar) are producing nearly 1 million metric tonnes of

⁸ Psyllium husk is used as a laxative and is commonly referred to as Isabgol.

wood, valued at Rs. 1,200 million, annually and are selling it to several wood-based industries (Saigal, Arora and Rizvi 2002).

Farmers also produce certain non-wood forest products, including some medicinal plants, though production of non-wood products is still limited compared to wood products such as poles, fuelwood, pulpwood and timber.

1.2.8 Plantation companies

A large number of plantation companies were also formed in the country during the late 1980s and early 1990s, which were basically collective investment enterprises that mobilised investments from the general public for various forestry ventures such as teak plantations. Most of these companies offered attractive investment schemes with very high tax free returns. By 1994-95, 3,599 such companies were registered. However, the experience of investors who invested in these companies has not been good. Most companies have defaulted on payments and many have folded up. Very few actually raised the plantations to the extent promised to the investors and several companies were floated with fraudulent intentions. After an investigation by the Securities and Exchange Board of India, the government has now notified stringent regulations for these enterprises. These enterprises are at present not playing an important role in the forestry sector (Saigal, Arora and Rizvi 2002).

1.2.9 Community-based production enterprises: Joint Forest Management

The Joint Forest Management (JFM) programme, under which local community groups and the Forest Department jointly protect and manage the forest patches adjoining a village and share the benefits, is now over a decade old. There are presently 63,618 JFM Committees in India, protecting over 14 million hectares of forests (Gol 2002). Many of these JFM Committees have started producing forest products such as poles, timber, grasses and other NTFPs on a regular basis and thus have emerged as important community-based forestry production enterprises.

1.3 Summary of the SSFE Sector

It is clear from the above account that the Indian SSFE sector is very diverse and encompasses a wide range of activities ranging from production or collection of products such as fuelwood, poles and NTFPs; their processing either by hand (e.g. leaf plate stitching) or by modern machinery, and marketing at every level ranging from barter at the local level to export to international markets. The Indian SSFE sector produces a wide range of products such as poles, fuelwood, charcoal, sawn timber, furniture, veneer, plywood, blockboard, fibreboard, particle board, paper, safety matches, sports goods, handicrafts, herbal medicines and other non-timber forest products.

Due to the diversity of products, markets and policies, it is difficult to make generalisations for the entire SSFE sector. Still, there are certain features of the sector that are clearly discernible.

- A feature of the Indian SSFE sector is that while most of the forests are owned by the government, the bulk of SSFEs are in the *private sector*. It is estimated that more than 90% of India's wood-based products are presently manufactured in the private sector (Gol 1999).
- SSFEs are an important *player in the forestry sector*. For example, 98% of the sawmills in India are small, which produce as much as 82% of the sawn timber in the country. About 87% of plywood factories and 94% of paper mills also fall in the small enterprise category. It is estimated

that the wood processing industries in India process about 24 to 30 million m³ of wood per annum (Gol 1999), the bulk of which is processed by SSFEs.

- *Farmers and communities are important producers* though their contribution is not widely recognised or acknowledged. JFM Communities are now protecting over 18% of India's forests and half the industrial wood supply is coming from non-forest sources, mainly farms.
- There are several *very small enterprises that cater to local demand*. For instance, it is estimated that 2.1 million bullock carts are constructed each year, as are 50 million yokes, 100 million wooden ploughs and 30 million wooden seeders. Most of this demand is met by local artisans who utilise local raw materials and traditional skills.
- Generally SSFEs are by nature *location specific*, which is determined on the basis of the availability of resource, labour and markets. For instance, most safety matches are manufactured in Tamil Nadu, whilst the bulk of sports goods are manufactured in just two cities.

SSFEs play an important role in the national economy, especially rural sector. While it is difficult to obtain national figures, available industry wise figures do indicate large-scale employment in SSFEs. For example, it is estimated that up to 10 million people are directly involved in beedi industry and up to 30 million are indirectly dependent on it. Nearly half a million people are employed in safety match making, sawmilling and wood carving. Some SSFEs also earn valuable foreign exchange e.g. medicinal plants and wood carving industries.

The contribution of the household based SSFEs to the livelihoods of the rural poor is perhaps even more significant than that of the organised sector. It is estimated that there are 147 million people that live in close proximity to forests in India (FSI 1999). Many of these are poor and indigenous peoples, who are dependent on forests for their livelihood.⁹ An idea of the immense contribution of forest products to the national economy can be gauged from the fact that an estimated 600 million tonnes of forest produce valued at Rs. 300 billion is collected annually from India's forests (Gol 1999).

⁹ There is a close overlap between the forest, poverty and indigenous peoples maps of the country (Poffenberger and McGean 1996).

2. Policies governing Small-Scale Forestry Enterprises

2.1 Summary of policies

A range of government policies govern SSFEs. These include the industrial, labour, trade, forest and environment policies. The major policies are summarised in this section.

2.1.1 Industrial policy

Like other industries, SSFEs are affected by government industrial policies. The Industrial Policy Resolution of 1956 and the Statement on Industrial Policy of 1991 provide the basic framework for the overall industrial policy of the Government of India. While economic reforms initiated in 1991 have led to the removal of numerous measures that once protected Indian industry, some of the measures that protect the small-scale sector still continue. Small-scale industries are provided certain special treatment such as reservation of products, priority sector lending and concessional credit, preferential purchase by central and state government organisations (358 items), assistance for technology development and modernisation, incentives for ISO 9000 certification, and excise exemptions (except sandalwood oil and matches) (MoI 1999, in Singh 2002).

2.1.2 Industrial licensing

Since economic liberalisation, the licensing and investment restrictions in various sectors have been gradually removed. The requirement for industrial licence is now limited to:

- Industries reserved for the public sector
- Industries of strategic, social or environmental concern
- Manufacture of items reserved for the small-scale sector by non small-scale industry units or units in which foreign equity is more than 24 per cent

For instance, industrial licensing is still compulsory for industries such as:

- Distillation and brewing of alcoholic drinks
- Cigars and cigarettes of tobacco and manufactured tobacco substitutes
- Electronic aerospace and defence equipment: all types
- Industrial explosives including detonating fuses, safety fuses, gunpowder, nitrocellulose and matches
- Hazardous chemicals
- Drugs and pharmaceuticals

Many forestry enterprises such as paper, plywood, veneer, particle board, medium density fibre board, block board, etc. that were under the licensing regime earlier have now been delicensed.¹⁰ (www.smallindustryindia.com)

2.1.3 Reservation policy

Certain products are 'reserved' for exclusive manufacture by the small-scale sector. As of 29 June 2001, 797 products were reserved for the small-scale sector (www.smallindustryindia.com). This list includes forest-based products such as sawn timber, wooden crates, tea chest plywood, seasoned wood, wooden furniture and fixtures, paper bags, paper cups and plates, paperboard cartons, exercise books and registers, paper napkins, letter pads, file covers, certain rubber products, certain natural essential oils, truck body building and

¹⁰ For example, plywood, veneers of all types and other wood-based products such as particle board, medium density fibre board/ block board were de-licensed vide Department of Industrial Policy and Promotion Press Note No. 11 (1997 Series) dated 17 July 1997.

sports goods (see Annex 3 for details) (www.smallindustryindia.com). Large units can manufacture these items only if they obtain an industrial licence and undertake a 50% export obligation (Singh 2002). In the case of the safety match industry, in order to protect the small-scale sector, the government imposed a production ceiling on Wimco, the only large-scale mechanised producer, at 695,000 cases per annum¹¹ (Tandon 1991).

2.1.4 Excise policy

The government has provided several concessions in the excise duty to the small-scale sector in order to improve its competitive position vis-à-vis large manufacturing units. The Central Government granted full exemption from the payment of central excise duty on a specified output and thereafter slab-wise concessions on certain specified items in 1978. A general Small-Scale Exemption Scheme in respect of specified commodities was introduced in 1985, which was subsequently amended through periodic notifications. In the budget of 1998-99, the exemption limit was raised and SSI units whose clearances did not exceed Rs. 5 million in a financial year were exempted from payment of excise duty.

The small-scale sector also benefits from simplified tax procedures. SSIs are not required to maintain any statutory records such as daily stock account of production and clearances, raw material account, personal ledger account, RG-23A account, RG-23C account, stock register of goods sent for processing of job-work, invoice records etc. Their own records are adequate for excise purposes. SSIs have been allowed to pay duty on a monthly basis from 1 April 1999 onwards (www.smallindustryindia.com).

Commodity wise concessions may also be granted. For instance, special excise relief was provided to small paper mills using secondary raw material (other than bamboo, hardwoods, softwoods, reeds or rags) (Rao 1989).

2.1.5 Credit policy

The government has taken a number of steps to improve the flow of credit to the small-scale sector. The Small Industries Development Bank of India (SIDBI) is the apex refinance bank in the country. Term loans to SSIs are provided by the State Financial Corporations (SFCs), Scheduled Banks and Small Industries Development Corporations (SIDCs). Credit in direct/indirect form to a certain extent is also provided by other agencies such as the National Bank for Agriculture and Rural Development (NABARD) and the National Small Industries Corporation (www.smallindustryindia.com).

The Reserve Bank of India (RBI) has also taken a number of steps to improve the flow of credit to the SSI sector. Some of the major initiatives (1996-2000) are listed below.

¹¹ 1 case = 7200 boxes

- In order to ensure that credit is available to all segments of the SSI sector, RBI has issued instructions that out of the funds normally available to the SSI sector, 40% be given to units with investment in plant and machinery up to Rs.5 lakhs, 20% to units with investment between Rs.5 lakhs to Rs.25 lakhs, and the remaining 40% to other units.
- Public sector banks have been advised to operationalise more specialised SSI branches at centres where there is a potential for financing many SSI borrowers. As of March 2000, 389 specialised SSI branches were working.
- Extension of the 'Single Window Scheme' of SIDBI to all districts to meet the financial requirements of SSIs.
- With a view to moderating the cost of credit to SSI units, banks have been advised to accord those SSI units with a good track record the benefit of lower spreads over the prime lending.
- In order to take expeditious decisions on credit proposals of SSI units, banks have been advised to delegate enhanced powers to the branch managers of the specialised SSI branches so that most of the credit proposals are decided at the branch level itself (www.smallindustryindia.com).

2.1.6 Labour policy

The labour policy for the small-scale sector is shaped by comprehensive labour laws in the country. The following is the list of major labour laws that are applicable to SSIs in India.

- Apprentices Act, 1961
- The Bidi and Cigar Workers (Conditions of Employment) Act, 1966
- Bonded Labour System (Abolition) Act, 1976
- Child Labour (Prohibition & Regulation) Act, 1986
- The Children (Pledging of Labour) Act, 1933
- The Contract Labour (Regulation & Abolition) Act, 1970
- The Employees Provident Funds and Misc. Provisions Act, 1952
- Employees State Insurance Act, 1948
- Employers Liability Act, 1938
- Employment Exchange (Compulsory Notification of Vacancies) Act, 1959
- Equal Remuneration Act, 1976
- The Factories Act, 1948
- The Industrial Disputes Act, 1947
- The Industrial Employment (Standing Orders) Act, 1946
- The Inter-state Migrant Workmen (Regulation of Employment and Conditions of Service) Act, 1979
- Labour Laws (Exemption from Furnishing Returns & Maintaining Registers by Certain Establishments) Act, 1988
- Maternity Benefit Act, 1961
- The Minimum Wages Act, 1948
- The Payment of Bonus Act, 1965
- The Payment of Gratuity Act, 1972
- The Payment of Wages Act, 1936
- The Sales Promotion Employees (Conditions of Service) Act, 1976
- The Shops and Establishments Act, 1953
- The Trade Union Act, 1926
- Workmen's Compensation Act, 1923
- The Weekly Holidays Act, 1942

(www.smallindustryindia.com)

As is evident from the above list, India has a comprehensive set up of labour laws that are designed to protect workers' rights and to promote their welfare. While the laws are stringent, their enforcement is weak. It is common knowledge that many enterprises flout provisions related to child labour, working conditions and safety and minimum wages. Further, in order to avoid these cumbersome laws, many enterprises keep a number of employees on a casual/ *ad hoc* basis without proper documentation. This results in gross under-reporting of employment figures in the sector.

It is also widely known that there is widespread corruption among the enforcement agencies. In many areas, it is institutionalised in the form of monthly payments to enforcement officials. Many consider the present labour law framework to be out of date and a hindrance to industrial growth.

2.1.7 Trade policy¹²

Until the mid 1980s the domestic market for most goods was closely protected by import restrictions and administered prices. Liberalisation of trade intensified rapidly with the introduction of economic reforms in 1991 and India's ratification of the World Trade Organisation (WTO) agreement in 1994. Trade policy reforms have progressively simplified India's restrictive import licensing and reduced tariff protection.

The negative list of imports has been progressively shortened. At the time of a survey conducted by Singh (2002), only 58 items were prohibited from imports, either on religious or cultural grounds, or to fulfil international obligations such as the Convention on International Trade in Endangered Species (CITES). A total of 168 items were canalised, or reserved for monopoly trading by state agencies. Under two overlapping categories, 2714 and 600, items were classified as restricted - either for balance of payment reasons, or on grounds of safety, security and environmental protection respectively. Most consumer goods were restricted, as were seeds, plant and animal products and items relating to the small-scale sector. These could only be imported under a licence or in accordance with a public notice. Regulation of exports included prohibition on exporting certain items (such as wildlife forms and wood) and licence requirement for certain others such as some agricultural commodities. Some items (including gum karaya) were canalised (WTO 1998, in Singh 2002).

Parallel to reducing import controls, customs duties have also been cut. Between 1993-94 and 1997-98 the simple average of all import duty rates came down from 71% to 35% (with a weighted average of 20%) and the process of reform and reduction continues. Collection rates, which are a better indicator of protection than declared rates, came down from the level of 47% in 1990-91 to 29% in 1995-96 (WTO 1998, in Singh 2002).

Drastic changes in the trade policy have a massive influence on domestic markets, including those of forest products. Annexes 4 and 5 list forest produce on the negative list of imports and exports respectively. As can be seen from these lists, the import of wood, wood products and pulp is now virtually unregulated. However, a number of NTFPs are still under state trading regimes, and many others require import licences. The export of wood and unfinished wood products is prohibited on grounds of national scarcity, as are 29 species of wild plants. Gum karaya may only be exported by the Tribal Cooperative Marketing Federation (TRIFED) and licensing applies to forestry seeds. Both lists highlight the contrast between liberalisation of wood versus that of non-wood products.

¹² This section draws on Singh 2002.

This contrast is even more obvious in the present structure of import duties. There has been an all round reduction in duties compared to 1990 levels (see Annex 6). However, while wood-based raw material and intermediate products respectively attract the lowest and middle order of import duties, those on non-wood raw material and finished goods are pegged at the highest level possible.

In the case of wood, low import duties and the ban on exports together work to depress domestic prices. This benefits the domestic wood-based industry, which also has the advantage of relatively high import duties on finished goods. On the one hand this adversely affects the profitability of domestic wood producers; on the other hand, wood-based industries have little incentive to improve wood conversion ratios and overall efficiency and competitiveness.

The situation is entirely different in the case of NTFPs. Regulation of imports accompanied by a high duty structure which insulates the domestic market. Ostensibly, this is designed to protect tribal and other rural communities for whom NTFPs are an important source of income. It is not, however, obvious that this protection enhances or even safeguards rural livelihoods. It certainly does not encourage the efficient production of competitive goods. Since state owned bodies hold a monopoly in procurement and trade in commercial NTFPs and also operate as canalising agencies, they are the primary beneficiaries of protectionist trade policies. While this allows the government to fully control prices to its own advantage (which may or may not benefit collectors) it has the dual effect of discouraging production in the private sector and restraining growth of the NTFP based industry.

2.1.8 Policies governing the herbal medicine trade

The regulatory framework for trade in medicinal plants, especially international trade, is provided by the Convention on International Trade in Endangered Species (CITES); the Wildlife (Protection) Act, 2002; Import-Export Policy; the Customs Act, 1962; and quarantine regulations under the Livestock Importation Act, 1898; the Destructive Insects and Pests Act, 1914; and the Foreign Trade (Development and Regulation) Act, 1992. The Wildlife (Protection) Act prohibits collection and trade in plants listed in Schedule VI of the Act, which includes all the six plants of Indian origin presently listed in Appendix I of CITES. Export of 29 plants, portions, their derivatives and extracts obtained from the wild is banned under Section 5 of the Foreign Trade (Development and Regulation) Act, 1992. However, export is permitted in the form of "formulation", which is defined as "products which may contain portions/ extracts of plants on the prohibited list but only in unrecognisable and physically inseparable form". The export of cultivated varieties of prohibited plants is allowed (except red sanders), provided a cultivation certificate is obtained from the designated authority. Similarly, export of value added formulations produced from imported species of plants and plant portions are permitted. However, curiously, all formulations - herbal/ ayurvedic medicines, where the label does not mention any ingredients extracted from the prohibited plants - are freely exportable without the requirement of any certification from any authorities whatsoever (Notification No. 24 (RE-98)/ 1997-2002 dated 14 October 1998, Ministry of Commerce, Government of India) (Rawal 2003).

2.1.9 Export incentives

The government has provided a number of incentives to promote exports from the SSI sector. The government recognises manufacturer as well as merchant exporters as Export House (EH), Trading House (TH), Star Trading House (STH) and Super Star Trading House (SSTH) on the basis of certain criteria and provides them certain benefits under the Export-Import policy. In an attempt to encourage exports from the small-scale sector, the exports made by small-scale sector manufacturer-exporters are given triple weightage for the purposes of recognition as

EH/TH/STH/SSTH. Similarly, double weightage is given to merchant exporters for exporting products reserved for SSI units and manufactured by units in the SSI/ Tiny Sector (www.smallindustryindia.com).

2.1.10 Forest and environmental policies

A number of forest and environment sector policies govern SSFEs. Until the 1980s, state forests were the main source of raw material for many forestry enterprises, including SSFEs. Many forestry enterprises (especially large ones) were even leased large areas of state forests on payment of nominal royalty.

The Forest (Conservation) Act, 1980 and the National Forest Policy of 1988 changed the scenario dramatically. The National Forest Policy of 1988 stated that forestry enterprises should not be supplied raw material from the state forests and they should instead meet their requirements through adopting alternative raw materials, imports or from farm lands. It further stated that no new forestry enterprises should be permitted, except the village and cottage level enterprises, unless there is assured availability of raw material (see Box 3).

Box 3: Extracts from the National Forest Policy 1988

“As far as possible, a forest based industry should raise the raw material needed for meeting its own requirements, preferably by establishment of direct relationship between the factory and the individuals who can grow the raw material ...”

“No forest-based enterprise, except that at the village or cottage level, should be permitted in the future unless it has been first cleared after a careful scrutiny with regard to assured availability of 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 or any other activity. Industry should be encouraged to use alternative raw materials.”

“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 Forest (Conservation) Act was enacted in 1980 to strengthen the Central Government's control over forests and to regulate change in land use as well as transfer of ownership. The two sub-clauses (Sub-clause 2 (iii) and (iv)) have directly affected forestry enterprises, which are mainly in the private sector. According to Sub-clause 2 (iii), any forest land or any portion thereof can not be assigned by way of lease or otherwise to any private person or to any authority, corporation, agency or any other organisation not owned, managed or controlled by Government, without the prior approval of the central government. Sub-clause 2 (iv) prohibits clearing of naturally grown trees in forest land for the purpose of using it for reforestation.

Entrepreneurs willing to set up any wood-based unit are required to obtain approval from the MoEF before submitting the application to the administrative Ministry/ Secretariat for Industrial Assistance (SIA) and enclose a copy of “in principle” approval given by the MoEF. This is required in terms of Press Note No. 9 (1998 series) dated 27 August 1998, issued by the Department of Industrial Policy and Promotion, Ministry of Industry.

Like other industries, SSFEs are also governed by the various environment laws in the country. However, for SSIs the procedures are generally simpler and certain special concessions are available. For instance, while major industries have to be located at least 25 km from standard urban limits, this restriction does not apply to SSIs. All industries are subject to local zoning and

land use regulations. There are 56 protected districts and 27 districts reserved for non-polluting industries. In addition, environmental clearance from the Ministry of Environment and Forests is required for specified industries. The environmental clearance procedure for SSIs has been rationalised and simplified except in the case of 17 hazardous industries. Now a mere acknowledgment of the application by the State Environment Board would be sufficient. The paper and pulp industry is among the 17 hazardous industries and is subject to various environmental regulations. Industry specific standards are prescribed for emissions, effluents, and discharge of waste water by both small and large paper and pulp industries. Small-scale industries are allowed simplified consent procedures under the Air (Prevention and Control of Pollution) Act 1981, and the Water (Prevention and Control of Pollution) Act 1976 (Shrivastava 1999, in Singh 2002; <http://www.smallindustryindia.com>).

Farmers and community producers are also affected by policies related to regulation of felling and transport of forest produce. Prior permission is needed for felling of trees even on private lands and special transit permits are needed to transport forest produce. Although felling and transit permit requirements have been eased for the major farm forestry species in several states, these are still major obstacles for the growth of farm forestry in many areas.

Collectors of forest produce also face several restrictions. The most commercially important NTFPs are nationalised with restrictions on their processing by the primary collectors. For instance, local people in Orissa can collect broom grass but cannot bind it into a broom, nor can they sell the collected item on the open market. The poor are thus effectively prevented from both value addition through processing and the right to get the best price for their produce. Due to similar restrictions, *tendu* collectors can only collect and hand over the leaves to the government but cannot roll them into *beedis* (country cigarettes). They have to purchase leaves from the traders who again pay them *beedi*-rolling wages. Similarly, there are a number of restrictions on storage, processing and sale of many NTFPs, even if they are collected from private lands. This causes much difficulty to bamboo artisans and others involved in activities requiring some storage of NTFPs (Saxena 1996 in Saigal *et al*, 1996). These regulations clearly prohibit value addition at the local level and deny people any chance to improve their earnings.

2.1.11 Land ceiling policy

Forestry enterprises are also affected by statutory land ceilings on agricultural land as they are unable to raise large-scale plantations for meeting their raw material needs. The ceiling limits vary from state to state and also for different categories of land. However, the ceiling limits on agricultural land holdings for corporate entities are the same as those for individuals. Thus, a company can own and manage only as much agricultural land as is permitted under law for any individual and this is insufficient to raise captive plantations on any meaningful scale (Lal 2000).¹³

2.2 Summary of the policy environment

As is evident from the above account, the policy environment for the SSIs is very favourable and the SSIs enjoy protection as well as a number of concessions. A number of items are reserved for SSIs and they are entitled to special excise concessions, preferential treatment from banks for obtaining credit and various export incentives. However, with economic liberalisation and changes in the trade policy, SSIs have started facing increased competition from foreign

¹³ According to the national guidelines of 1972, the maximum ceiling limit for the best category of land should be 10-18 acres while that for the worst category should be 54 acres (IASSI 1991, in Singh 2002). [1 acre = 0.404686 hectare].

companies. The labour law framework is also quite stringent though its implementation is rather weak.

The forest produce production enterprises (e.g. farm forestry plantations) face other restrictions, such as requirements of felling and transit permits and land ceiling laws. The policy environment also varies according to the industry. For instance, while there are special environment protection provisions for hazardous industries such as paper mills, certain trade restrictions are applicable to the medicinal plants and herbal medicine industry.

3. Trends in Small Forestry Enterprises

While it is impossible to generalise the trends in small forestry enterprises due to the presence of a wide variety of products and markets, the trend in small paper mills, lacquerware and safety matches are briefly presented in this section as illustrative cases.

3.1 Small paper mills

A few small paper mills units based on agriculture residues and waste paper started during the period 1960-65. However, the real growth in small mills started only after the mid-1970s. In 1973, the government identified pulp and paper as a 'core industry' of importance to the national economy. It also realised that there was inadequate investment in the sector. Between 1975 and 1985, a number of exemptions from the licensing requirements were given to the industry, especially for manufacturing based on agricultural residues and waste paper (Rao 1989)¹⁴. In 1975, the government also permitted import of second-hand paper machines (up to 30 tonnes per day) by small and medium entrepreneurs. This led to establishment of some 35-40 such units during the Sixth Five Year Plan (1980-85). Simultaneously many very small units (5-10 tonnes per day) were established, which, unlike large mills, were already exempted from the licensing requirement. Some other factors which led to the growth of small paper mills are as follows:

- Limited availability of agricultural residues due to competing uses such as fodder, and problems in collection, transport and storage precluded setting up of large mills based on agricultural residues.
- Lack of a skilled workforce and adequate infrastructure in areas near the source of raw material.
- Lower investment and shorter establishment period as compared to large mills (Rao 1989).

The growth of small paper mills in India is shown in Figures 4 and 5 (also see Annex 7).

¹⁴ Under the provisions of the Industrial (Development and Regulation) Act 1951, an industrial licence was required for the paper and pulp industry. A licence was necessary for:

- i) establishing a new undertaking;
- ii) taking up manufacture of a 'new article' in an existing industrial undertaking; and
- iii) substantially expanding the capacity of an industrial undertaking in an existing line of manufacture.

The Act also empowered government to grant exemptions from the application of the licensing provisions. A general exemption was provided up to a specified limit of investment and in such cases only registration with the Directorate General of Technical Development, Ministry of Industry, was required (Rao 1989).

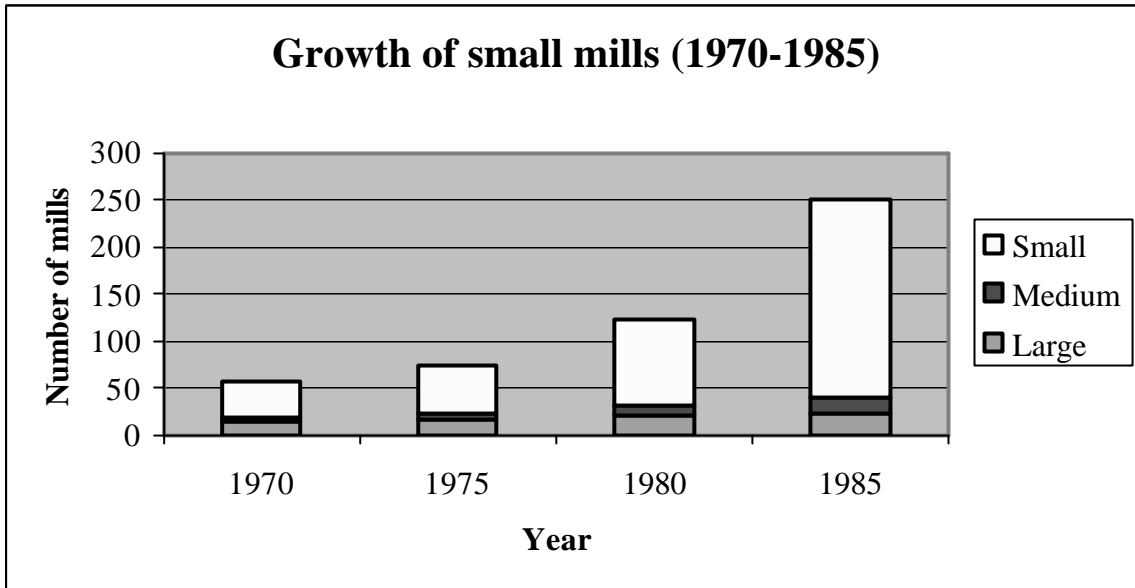


Figure 4: Proportion of small paper mills in India (1970-1985)

Source: Rao 1989

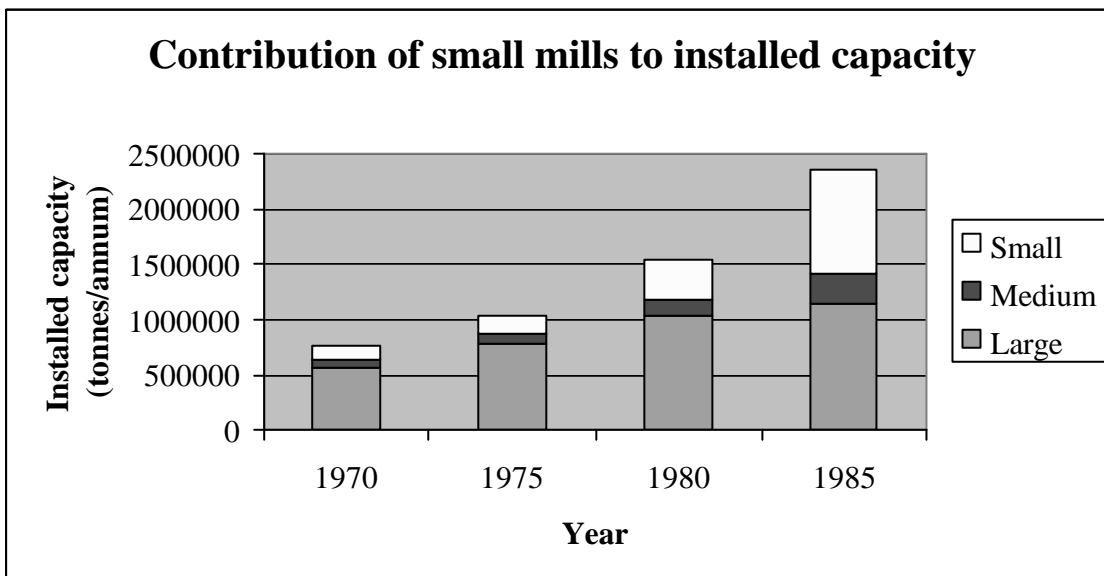


Figure 5: Contribution of small paper mills to installed capacity (1970-1985)

Source: Rao 1989

The increasing number of small mills has also resulted in a steady decline in the average capacity of the Indian paper industry (see Table 5).

Table 5: Average capacity of Indian paper and paper board mills

Year	Number of units	Total capacity ('000 tonnes)	Average capacity ('000 tonnes)
1965	52	644	12.4
1970	57	768	13.5
1980	123	1,538	12.5
1990	305	3,014	9.9
1993	380	3,790	10.0

Source: Ahuja 1992 and Indian Paper Makers Association 1995 in Pradhan and Barik 1999.

3.2 Lacquerware

Lacquerware is a traditional forest-based industry. In recent years, wide availability of cheap plastic toys, pens and other products have substantially reduced the domestic demand for traditional lacquerware products such as toys, pens and nib holders. However, the export market has picked up, which has led to major changes in the lacquerware industry. Exports have soared to nearly three-quarters of the entire production. The export market's higher quality standards, exact specifications and large orders necessitated precision, speed and standardisation, which led to mechanisation. Power lathes are increasingly used, which has led to the replacement of women artisans, who traditionally did this work at home, with men working in factory settings (Campbell 1991).

3.3 Safety matches

The excise incentives for small units have acted as a positive disincentive for small units to expand their production and even encouraged some bigger units to go for deliberate fragmentation. There is growing trend of centralised ownership of many smaller units. In fact, just 18 families known as the "Match Kings of India" now control 67% of production. The Khadi and Village Industries Commission has provided support to many cottage units but the performance of cottage units hasn't been very good and the sector has not expanded much. The industry has also been accused of providing poor working conditions and exploitation of women and child labourers (Tandon 1991).

3.4 Summary of trends in small-scale forestry enterprises

The great diversity of products that are produced and processed by small-scale enterprises makes it impossible to define an overall trend. However, just these three examples show that there has been a general increase in activity in SSFEs, sometimes encouraged by government incentives, sometimes because of the inherent comparative advantages of small-scale units over larger ones – for example the ability of small-scale paper mills to make use of limited volumes of agricultural residues available locally. However, increased activity can also signal a change in the employment structure – for example in the lacquerware industry, increased mechanisation led to a greater proportion of men being employed. Finally the impression given by numerous small-scale enterprises can be misleading: they are not necessarily autonomous but might be controlled and owned by wealthy, powerful organisations – as is evident in the case of safety matches.

SSFEs are also affected by and in turn affect general trends in the forestry sector. For instance, many SSFEs contribute significantly to exports (e.g. wood carving and medicinal plants industry) while others rely on imported raw material (e.g. many sawmills). Trends in overall forest product import and export and selected items are presented in Annex 8.

4. Key opportunities and threats

Like any other sector, there are a number of opportunities and threats facing the SSFE sector. These are briefly discussed in this section.

4.1 Opportunities

The main opportunities available to the SSFE sector are in the form of various government schemes, incentives, protection measures and emerging markets for certain products.

4.1.1 Reservation policy

As mentioned earlier, 797 items are “reserved” for exclusive manufacture by the small-scale sector. Reservation of products for exclusive manufacture in the small-scale sector was introduced for the first time in 1967 with the reservation of 47 items. This number increased progressively over the next decade. The reservation policy received a major boost in 1977, when the “Industrial Policy Statement” issued in that year noted:

“Whatever can be produced by small, cottage industries must only be so produced”.

The number of products reserved for the SSI was increased from the 180 to 504 immediately. After the introduction of the National Industrial Classification (NIC) code, the list was recast. As a result, the list of reserved items expanded from 504 to 807 in 1978, increased further to 836 and is presently 797 (www.smallindustryindia.com). There are many forest products (e.g. sawn timber) that are reserved for the SSI sector. The reservation policy has protected the SSI sector from competition from large units. However, this has also led to a feeling of complacency among SSIs manufacturing such products and the level of efficiency and innovation is far below potential.

4.1.2 Tax incentives and promotional schemes

As mentioned in an earlier section, the SSI sector enjoys several tax incentives. These include excise, sales tax and customs duty concessions. A number of promotional schemes have also been started by the government. The main schemes run by SIDO are given in Box 4.

<i>Box 4: Summary of the major SIDO schemes</i>
Credit Linked Capital Subsidy Scheme for Technology Upgradation - capital subsidy @ 12% up to Rs. 4.8 lakhs on loans taken for technology upgradation - for individual SSIs.
Credit Guarantee Scheme - collateral free loans up to a limit of Rs. 25 lakhs - for individual SSIs.
ISO 9000/ISO 14001 Certification Reimbursement Scheme - incentive scheme of reimbursement of expenses for acquiring Quality Management System (QMS) ISO 9000 certification/ environment management (EMS) ISO 14001 certification to the extent of 75% or Rs.75,000, whichever is lower - for individual SSIs/ ancillary/ tiny/ Small-Scale Service and Business Enterprise units.
Participation in international fairs - full subsidy on space rent and shipment of exhibits of SSI units - for individual SSIs.
Purchase and Price Preference Policy - this is administered through the Single Point Registration Scheme of NSIC. Under this, 358 items are reserved for exclusive purchase from SSI by Central Government - for individual SSIs.
Prime Minister's Rozgar Yojana - Project limit up to Rs. 1 lakh for business and Rs. 2.00 lakhs for other activities, subsidy and margin money up to 20% of project with balance as loan. Subsidy for the North-East twice that of rest of India - for entrepreneurs, SSIs. ¹⁵
Integrated Infrastructure Development - assistance up to 40% or Rs. 2.00 crores, whichever is less for setting up industrial estates for SSI units. For the North East, assistance is 80% or Rs. 4.00 crores - for state governments/ industry associations/ NGOs.
Mini Tool Rooms - assistance up to 90% or Rs. 9.00 crores, whichever is less for setting up new Mini Tool Rooms. For upgradation of existing Tool Rooms, assistance is 75% or Rs. 7.5 crores - for state governments.
Testing Centres - assistance up to 50% or Rs.50 lakhs, whichever is less for setting up Testing Centres - for industry associations.
Sub-Contracting Exchanges - one time grant for procurement of hardware and thereafter matching grant on tapering basis at 50%, 30% and 10% of running expenses, not exceeding Rs. 1.25 lakhs, Rs. 0.75 lakhs and Rs. 0.25 lakhs respectively during the initial three years, subject to a ceiling of Rs. 1.57 lakhs per exchange - for industry associations.
SSI MDA - the scheme offers funding up to 90% in respect of return airfare for participation by SSI entrepreneurs in overseas fairs/ trade delegations - for individual SSIs and associations.
Assistance to Entrepreneurship Development Institutes – for strengthening training infrastructure in EDIs, assistance up to 50% or Rs. 50 lakhs whichever is less – for state governments.

Source <http://www.smallindustryindia.com/schemes/sidoscheme.htm>

¹⁵ The north-eastern states of India, which have a significant population of tribal communities, have been given a special status by the Constitution of India (Schedule VI) and much greater autonomy has been granted to these states.

In a nutshell, the main incentives available to the SSFEs through these SIDO schemes are: capital subsidy to SSIs for loans taken for technological upgradation; reimbursement of costs incurred in the process of acquiring quality management certification; heavy subsidies for space rent for exhibiting SSI products; reservation of items for exclusive purchase from SSI by Central Government; financial assistance for setting up industrial estates, substantial grants for procuring hardware (for industry associations) and grants to state governments to strengthen training infrastructure.

Thus, most of these incentives are in the form of heavy subsidies to individual SSIs, state governments and industry associations. The central government has reserved 358 items for exclusive purchase from SSIs.

In addition to the SIDO schemes listed above, there are a number of other opportunities available to the SSIs as well. For instance, the Technology Bureau for Small Enterprises (TBSE), promoted with the assistance of the UN, offers access to databases and information related to technology. The National Small Industries Corporation also provides assistance for technology up-gradation. The Asia Pacific Centre for Transfer of Technology promotes match making between buyers and sellers and facilitates procurement through escort services (FICCI 2002).

While all the above schemes are applicable to all SSIs irrespective of the industry, many industry specific incentives are also available to SSFEs. An illustrative case of wood carving industry is presented in Box 5.

Box 5: Incentives available to the wood carving industry

In order to promote exports of wood-based handicrafts, the government has initiated a Market Development Assistance Scheme, freight subsidy and export awards. Training is also provided under schemes such as Baba Saheb Ambedkar Hastha Shilpa Prasikshan Yojana. The government allows 2% Duty Entitlement on plastic packing material if supplemented by paper packing material. It also allows duty-free import of wood polishing material.

The Export Promotion Council for Handicrafts supports the industry by providing training in export procedures, organises seminars and buyer-seller meets, and arranges exporters' participation in exhibitions.

The state governments also provide several incentives. The Uttar Pradesh Government has exempted the wood carving industry from payment of Sales Tax. The Rajasthan Government has exempted exporters of woodcraft products from payment of Sales Tax and Income Tax. The Arunachal Pradesh Government has set up several Craft Centres for the production of wooden handicrafts. It also runs the High Skill Development Training Programme to train youth in various crafts. The Kerala Government has established the Handicrafts Development Corporation of Kerala to help in the development of industry, welfare of artisans and marketing through exclusive showrooms (WWF 2003).

4.1.3 Credit availability

The requirement to provide collateral security is a major obstacle to the flow of bank credit to small units. The Reserve Bank of India has recently issued instructions to dispense with the collateral requirements for loans up to Rs. 100,000. The limit is being further increased for the tiny sector from Rs. 100,000 to Rs. 500,000. The Small Industries Development Bank of India (SIDBI) is planning to increase its composite loan limit from Rs. 500,000 to Rs. 1 million. SIDBI is also likely to increase the credit limit under the National Equity Fund Scheme from Rs. 1.5 million to Rs. 2.5 million. SIDBI also administers a scheme for technology development and modernisation of small-scale units. The public sector banks have been asked to accelerate their

programme of specialised “small-scale industry branches” and to obtain ISO certification for these branches to improve the quality of service (WWF 2003).

4.1.4 Growth of farm forestry in certain areas

The growth of farm forestry in some areas such as Uddham Singh Nagar in Uttaranchal and Prakasam in Andhra Pradesh is a good opportunity for wood-based SSFEs. It is estimated that Uddham Singh Nagar and Prakasam districts alone produce between 0.2-0.28 million metric tonnes and 0.65-0.7 million metric tonnes respectively of farm grown wood annually. In terms of value, it is estimated that wood worth Rs. 650 million and Rs. 560 million respectively is produced annually in Uddham Singh Nagar and Prakasam districts. Thus, just two districts (or rather parts of these districts) are producing nearly 1 million metric tonnes of wood valued at over Rs. 1,200 million annually (Saigal, Arora and Rizvi 2002). Many wood-based enterprises have sprung up in areas where abundant farm grown wood is available.

4.1.5 Opportunities due to economic liberalisation and the WTO regime

A number of opportunities are available to SSIs due to economic liberalisation and the WTO regime, such as increased access to global markets. There are many Indian products that are exported to only a handful of countries, but by taking advantage of the WTO policies, new markets can be exploited for these.

SSIs can now access better technology through tie-ups with other similar enterprises in other countries. Access to modern technology can lead to enhanced productivity and profitability. For instance, new techniques have made it possible to make durable furniture from eucalyptus wood after treatment and seasoning. Wood-based enterprises can enhance efficiency significantly due to the availability of several modern technologies.

4.1.6 Emerging markets (herbal medicines and packaging)

Demand for certain SSFE products, such as herbal medicines and cosmetics, is increasing rapidly in both domestic and international markets. The government has also announced a number of steps to promote exports.

A survey of agents and manufacturers indicated an annual compound growth rate in domestic sales of of herbal medicines of 20%. Considering the estimation of Rs. 25 billion domestic market size in 1998, the market size and demand for ayurvedic medicine in the year 2004 is predicted to be about Rs. 75 billion. The World Health Organisation (WHO) estimates that over 80% of the world's population relies on traditional plant-based medicine for their primary health care needs (Bannerman *et al* 1983, in Subrat, Iyer and Prasad 2002). The international market for medicinal plant-based products is estimated at US\$ 60 billion and is growing at the rate of 7% per annum. During 1986-87, India exported crude drugs valued at about Rs. 660 million. During the last decade, exports reached a value of Rs. 4.46 billion. However, these are still much below potential. China alone exports herbal products worth Rs. 220 billion annually. A recent report by the Planning Commission estimates massive potential increases in this export volume, to Rs. 30 billion by 2005 and to Rs. 100 billion by 2010 (Planning Commission 2000).

The government set up a Medicinal Plants Board on 24 November 2000, with the Union Health and Family Welfare Minister as its Chairperson. The Board will now coordinate all matters related to medicinal plants, including drawing up policies and strategies for conservation, proper harvesting, cost-effective cultivation, research and development, processing and marketing in order to protect, sustain and develop this sector (see Annex 9). The Board has identified 32

medicinal plants for focussed attention. It has also recently started promotional and commercial schemes under which it provided financial assistance for development of the sector. At the initiation of the National Board, 25 State Medicinal Plants Boards were also set up (NMPB 2002).

Packaging is another market which emerged following economic liberalisation. Exports of agriculture and allied products have gone up and there is increased demand for containers and boxes for packing these (Pradhan and Barik 1999). This can help the domestic paper industry, including small mills, whose performance in recent years has been far from satisfactory.

4.2 Summary of opportunities for SSFES

There are a number of opportunities available to SMFES. Many of these are in the form of various government incentive schemes available to SSIs in general. The government has also reserved a large number of items for exclusive purchase from SSIs. There are also several emerging or rapidly growing markets such as herbal medicines and packaging, where SSFES can play an important role. Reducing supplies of raw material from government forests on account of degradation and/ or green felling bans has also created new opportunities for new producers such as farmers and communities. The growth of farm forestry in certain areas e.g. the *Tarai* and coastal Andhra Pradesh has, in turn, opened up new opportunities for establishing new processing industries in these areas. For instance, a number of processing industries have been established in Yamuna Nagar (Haryana) due to the growth of farm forestry in the area.

4.3 Threats

The key threats pertain to raw material shortages, environmental concerns, increased competition, emergence of better substitutes, and issues related to pollution, health and labour welfare.

4.3.1 Raw material shortages

Many SSFES are facing raw material shortages and are unable to utilise their installed capacity fully. For instance capacity utilisation is only 50% for plywood, 41% for decorative veneers, 41.5% for particleboard and 60% for fibreboard (GoI 1999). The sports goods industry is facing an acute shortage of conventional sports goods timbers such as mulberry, ash and willow¹⁶ (Tewari 1995).

Similarly, Saharanpur's wood carving industry has started facing raw material shortages after the Supreme Court ordered the closure of all unlicensed sawmills on 4 March 1997. Further, the state government imposed a 12.5% Sales Tax on wood brought from outside the state. It is estimated that due to the Supreme Court's ban, Saharanpur's handicrafts industry has suffered a loss of Rs. 280 - 300 million (WWF 2003).

The safety match industry is facing shortage of raw material, especially of veneer quality wood. According to one estimate, the projected shortfall for the year 2000 was 900,000 m³. While farm forestry plantations, especially poplar, have increased raw material availability in the north, most match units are located far away in south India (Tandon 1991).

Quality and fluctuation in supplies are other major issues. Many raw materials used by SSFES are perishable e.g. medicinal plants. Similarly the basket making industry requires fresh bamboo

¹⁶ Shortage of skilled manpower and inadequate research and development are other constraints faced by the industry (Tewari 1995)

as it is difficult to make baskets out of dry bamboo. Production and quality of many NTFPs fluctuates widely due to natural causes. Consequently, availability and prices of these products also vary widely leading to problems for SSFEs based on these raw materials (FAO 1986).

4.3.2 *Environmental concerns and judicial activism*

The Supreme Court order to close unlicensed sawmills mentioned above is not an isolated case. There is a generally greater awareness about environmental issues and the judiciary has passed several judgements to protect forests and the environment, which have adversely affected several SSFEs.

The most important court case for the forestry sector in recent years is the ongoing case of T.N. Godavarman Thirumulpad vs. Union of India under which, starting in December 1996, the Supreme Court of India has issued sweeping directions to oversee the enforcement of forest laws across the nation.

Some of the important directions of the court affecting forest-based industries are as follows:

- The felling of all trees in all forest is to remain suspended except in accordance with a working plan approved by the Central Government.
- Licences given to all wood-based industries (in the North East) shall stand suspended.
- A complete ban on the movement of cut trees and timber from any seven north-eastern states of the country either by rail, road or water ways. The Indian railways and state governments were directed to take all measures necessary to ensure strict compliance of these directions. Railways were asked to shift immediately to concrete sleepers instead of using wooden sleepers. Defence establishments were also asked to find alternatives to various wood-based products.
- In March 1997, the court ordered the closure of all unlicensed sawmills and wood processing plants, and forbade states from licensing new operations.

More recently, the Supreme Court has banned felling of trees and collection of NTFPs from the forests of the Andamans, especially for use by industries on the mainland. Some of the relevant points of the order are as follows:

- No felling of trees for whatsoever reasons or justification should be carried out to supply to, or to meet the raw material requirement of, plywood, veneer, block board, match stick or any other such wood-based units except to local small-scale units (including saw mills) solely for meeting the local requirement for sawn timber and other wood-based products.
- There should be a complete ban on the establishment of any new wood-based unit for the next 10 years.
- All existing small-scale wood-based units (saw mills) should be relocated within industrial estates or, where industrial estates are not feasible, in locations contiguous to forest offices or otherwise convenient for the Forest Department to monitor. This relocation should be completed within one year, after which the non-complying saw mills should be closed down. These saw mills should also be required to obtain a licence from the Forest Department within three months and to maintain such records as may be prescribed by the Forest Department. Their licence may be renewed every year at the discretion of the

Forest Department, after the department has satisfied itself that a) the unit was not involved in the use of any illegal timber; b) the prescribed records were properly maintained; c) all provisions of the act, rules and the terms and conditions stipulated by the Forest Department from time to time have been complied with. Necessary rules, guidelines etc., for the purpose, should be prescribed by the Forest department within three months.

- No subsidy of any type, including transport subsidy, should be given to any wood-based unit.
- Existing medium and large scale wood-based industries (including plywood, veneer, and match industries) can be allowed to function provided they import their entire requirement of wood and other forest based raw materials from the mainland or from abroad. No subsidies should be allowed to them.
- No timber, either as logs or as sawn timber or plywood/ veneer, or in any other form, should be transported out of the islands through any means whatsoever. This should not, however, inhibit the transportation, as personal baggage, of a reasonable quantity of wooden handicrafts by tourists or of personal articles by those permanently leaving the islands. Also, where a wood-based industry, as specified in the point above, imports its entire wood and forest based raw material requirement, then it should be permitted to export its finished product.

Both large and small forestry enterprises have been affected by these orders. It is reported that many plywood manufacturers have either closed their operations while others have had to diversify operations to survive

(www.ceeraindia.org/documents/greensummaries.htm#godavarman). Some have shifted out of North-Eastern states and changed to use of imported logs. It has been reported that the ban on felling in North-East India has resulted in problems elsewhere. According to the Wildlife Society of Orissa, there has been over-harvesting of trees in Orissa due to the felling ban in the North-East. Many sawmills have been established in the coastal districts since the ban in North-East India (<http://www.indianjungles.com/280901b.htm>).

4.3.3 *Economic liberalisation and the WTO regime*

While a number of opportunities have emerged due to economic liberalisation and the WTO regime, there are threats as well. While the SSI sector has remained relatively protected, still economic liberalisation has brought about greater competition. The regime for licensing has been reduced to only seven industries. This list no longer includes the paper and pulp industry, as was the case until recently (Singh 2002). This means that large industries can now freely enter many fields where earlier their entry was regulated but the SSI sector had exemptions. Similarly, in recent years as many as 39 products have been dereserved: 15 items on 3 April 1997, 9 items on 3 February 1999, 1 item on 1 January 2001 and 14 items on 29 June 2001. The last 14 items included two sub-items and the effective number comes to 12 only (http://www.smallindustryindia.com/policies/lab_pol.htm). Liberalisation of imports has resulted in greater competition from imported goods. Quantitative restrictions on several items have been removed leading to freer imports of goods. Emergence of better substitutes has also affected many traditional SSFEs such as lac, resin, rubber and myrobalans. It is also feared that with the stringent application of laws related to intellectual property rights, access to modern technologies will become more difficult and expensive for these units.

4.3.4 *Poor management and technical skills*

Many SSFEs suffer from inefficient operations and poor quality of products resulting in loss of markets. For example, the sawmilling industry in India is highly inefficient. The conversion rate is very low. It is estimated that the conversion yield from log form to graded sawn timbers is only 45-50%, as compared to 55-65% in developed countries. Only 560 sawmills are following Indian Standards on grading and produce only 2.4% sawn graded timber. Wood waste produced by sawmills is rarely put to any commercial use, nearly 90% of it being used as fuel (Tewari 1995).

Seasoning and preservative treatment of wood is not common. Air seasoning of wood is carried out by only 470 mills and only 7% of the sawn wood produced is kiln seasoned. Wood treatment is even rarer. A pressure impregnation facility is available in only 118 units and a mere 0.4% of sawn wood is treated with wood preservatives (Gol 1999).

Similarly, while the Indian Ayurvedic medicines industry has tremendous export potential, it hasn't been realised due to problems such as lack of standardisation and adequate quality control. The trade in medicinal plants is extremely complex, secretive, badly organised and unregulated. There is no macro level information available for assessing the nature and full extent of the trade; there are only 'guesstimates' based on local inventories and micro studies. Identification of species and volumes traded is further complicated by the fact that there is no reliable correlation between trade names and botanical names, and names used for particular species may change along the supply chain. Conversely, the same trade name is even used for several species, especially if they are used for similar purposes. This makes any sort of certification extremely difficult. Further, as the industry has put little effort into research or in getting formulations registered in foreign countries, the majority of exports are in crude form for sale as para-medicines or food supplements. This is acting as a major constraint to the growth of the industry.

4.3.5 *Lack of Foreign Direct Investment*

The central government has taken measures to facilitate foreign direct investment and investment from non-resident Indians including overseas corporate bodies. Sector specific guidelines issued by the government do not, however, list forestry enterprises separately. Foreign equity only up to 24% is permitted in small-scale industries, subject to licensing and government approval. Manufacture of wood and wood products, furniture and fixtures is one of the 22 industries in the consumer goods sector in which dividend balancing was applicable until recently, and hence investment and returns were not freely repatriable (SIA 2000, in Singh 2002).

4.3.6 *Labour and health issues*

These issues are important in industries such as *beedi* rolling, safety matches and wood carving. It is reported that though the wood carving industry in Saharanpur generates employment for approximately 350,000 people, the economic condition of the workers is extremely poor. The average annual income of skilled artisans is Rs. 22,000 per annum and that of unskilled workers a measly Rs. 6,000. On the other hand, traders and exporters are much better off. There are 42 exporters with an average annual export of Rs. 54.07 million (WWF 2003). In the case of *beedi* industry, there is concern over employment of child workers. The United States has already banned *beedis* of certain brands due to child welfare and workers rights issues under Section 301 of the US Trade Law (Ganguly 2001). Workers' health is another important issue in the *beedi* industry as workers, mainly women and children, work in poorly-lit and -ventilated shanties and ingest a large amount of tobacco dust while rolling *beedis* with their backs bent from morning until evening. *Beedi* rolling is classified as a "hazardous occupation" by labour authorities (Shamantha n.d.). The *beedi* industry is also under threat due to greater

consciousness of public health. In some states (e.g. Delhi) smoking has been banned in public places.

4.3.7 Forest certification

Export oriented forestry enterprises such as the wood carving/ handicrafts industry and the medicinal herbs and cosmetics industry may face problems in exports in the future due to lack of forest certification, which is more or less absent in India.

4.3.8 Threats facing small paper mills – an illustrative case

This section briefly reviews threats facing small paper mills as an illustrative case. The small mills haven't performed well due to several factors such as use of old and substandard equipment leading to low production due to imbalance, uncertain supplies of raw material and wide fluctuation in prices, shortage of power and coal, high levels of pollution and high operational costs due to transportation of coal by road and low thermal efficiency of boilers. This has resulted in capacity utilisation of 50% or below and many small units became unviable. A study published in 1989 showed that out of 211 small paper mills in 1985, 85 had already shut down (Rao 1989).

Availability and price of waste paper is a major issue. There is no proper system for collection of waste paper by the mills. A substantial quantity of waste paper is used for packaging and as raw material for the handicraft and toy industry (papier mache). Further, with the shortage of raw material many large mills are also using an increasing amount of waste paper, which has led to an increase in its price.

In case of agricultural residues also, there has been uncertain availability and high fluctuation in prices, especially in areas where there is a concentration of small paper mills (e.g. south Gujarat, Andhra Pradesh). In any case, utilisation of agricultural residues involves problems of handling and storage (Rao 1989).

Pollution is a major area of concern. The chemical recovery process in small mills is highly inadequate, which results in wasteful use of chemicals and high rates of pollution, which are often above the standards laid down by the regulatory agency (Rao 1989; Pradhan and Barik 1999). It is estimated that the pollution load of a small unit up to 50 tonnes per day without adequate chemical recovery is equivalent to that of a 100 tonnes per day mill equipped with a recovery unit (Ahuja 1992, Pradhan and Barik 1999). Development of an economically viable chemical recovery system for small mills is a major challenge facing the paper industry. Apart from the structure of the industry (large number of small mills), another reason for high pollution is the isolation of Indian industry until recently, and hence little incentive for the producers to introduce cleaner technologies. Near 78% of the installed capacity is based on chemical technology, which is highly polluting and generates biological oxygen demand (BOD) of 41 Kg/MT (kraft process) to 116 Kg/MT (sulphite process). In contrast, the thermo-mechanical pulping process, which generates BOD of just 28 Kg/MT, has only a marginal share of 11% of the installed capacity in India. This technology has other advantages of lower capital costs, raw material use efficiency and better and stronger fibres. It is believed that cheap availability of raw material, especially bamboo, and stringent licensing controls over setting up new units or changing existing ones were mainly responsible for this situation (Pradhan and Barik 1999).

A major threat facing the domestic paper industry is the large amount of paper imported at very low rates of duty (5%) under the guise of newsprint. This paper, which should actually be imported at higher rates of duty, is sold in the market at low prices, making Indian paper

uncompetitive. The government revoked the Newsprint Control Order in 1995. As a result imports increased sharply from 298,000 tonnes in 1995 to 547,000 tonnes in 1997. The largest newsprint supplier to India is Russia followed by Canada, Germany and Finland (<http://strategis.ic.gc.ca/SSG/dd71813e.html>).

4.4 Summary of threats facing SSFEs

A major threat facing Indian SSFEs is the growing shortage of quality raw material due to felling bans and restrictions on extraction in several states. However, while this is certainly a threat to processing industries, it is actually also an opportunity for production enterprises such as farm forestry plantations.

Growing concerns over environmental and labour issues are also significant threats. In recent years, many court rulings have also resulted in the closure of many forest produce processing industries on account of enhanced environmental concerns. The industries in the north-eastern states and the Andaman and Nicobar Islands have been particularly badly affected.

Growing competition from cheap imports on account of economic liberalisation and the trend towards removal of protective policies, such as reservation, are another set of threats facing the industry. Indian SSFEs are generally quite inefficiently run, the quality of products is poor and there is lack of standardisation. Due to these reasons, Indian SSFEs are quite uncompetitive internationally. Increasing competition from overseas companies and stringent application of an intellectual property rights regime is also likely to affect Indian SSFEs, especially processing industries, adversely.

5. Industry federations and associations

There are a number of federations and associations that have been formed by forestry enterprises. An illustrative list is given below:

- The Wood Carving and Manufacturing Association, with its headquarters in Saharanpur, looks into matters related to welfare of the industry.
- The All India Beedi, Cigar and Tobacco Workers' Federation (affiliated to All India Trade Union Congress) organises national conventions to highlight issues related to the industry, especially those related to workers' rights (8th convention held in January 2001 in Mangalore, Karnataka).
- All India Beedi Workers' Federation (affiliated to CITU) organises a triennial congress (3rd congress held in January 2001 at Farakka, West Bengal).
- Herbs and Kirana Association of Delhi is an association of medicinal plants traders.
- All India Small Paper Mills Association, Mumbai
- Federation of Indian Plywood and Panel Industries, New Delhi
- Indian Agro and Recycled Paper Makers Association
- Indian Newsprint Manufacturers Association
- Indian Paper Makers Association, Calcutta
- Indian Paper Mills Association, Calcutta

The last two merged in June 1999 to form the Indian Paper Manufacturers Association.

As mentioned earlier, the above is just an illustrative list of federations and associations in the forestry enterprises sector. Most of these are concerned with the interests and welfare of their members. While some like the All India Small Paper Mills Association focus their attention only on small enterprises, others like the Indian Paper Manufacturers Association have membership from across the industry. Most are focused on a particular industry or even a particular group within the industry e.g. *beedi* workers. The ones related to workers usually have affiliation to a particular political party.

Most associations and federations act as pressure groups to further the interest of their members. Some even actively try to influence policies. For example, the Indian Paper Makers Association actively lobbied to get leases for degraded forest lands. When NGO groups campaigning against the leasing of forest lands published a paper citing reasons why the forest lands should not be leased to the paper mills, the Association quickly came up with a point by point rebuttal of all the NGO arguments (Saigal, Arora and Rizvi 2002).

The workers' associations also try to influence policy decisions through actions such as conventions, rallies, protests, etc. For example, the eighth national convention of the All-India Beedi, Cigar and Tobacco Workers' Federation ended with a consensus to work towards a "united struggle" against "the onslaught of capitalist globalisation". The Federation, in an attempt to focus on the macro-level policies that have engendered the current crisis, resolved to join the

“national mainstream” and participate in the struggles of the National Platform of Mass Organisations (NPMO). The convention resolved to fight for a uniform national minimum wage to prevent the migration of the industry from one place to another and to fight against “banning of smoking in public places”. (www.blonnet.com/businessline/2001/01/22/stories/14221825.htm).

However, not all associations are as active. During discussions in the field, it was found that the main purpose of some associations (e.g. Saw Mills Association of Dehradun) is just to “set rates” for payment to government inspectors and other officials (personal communication, Surjit Singh, saw mill owner).

6. Relevance and need for further research on Small-Scale Forestry Enterprises

The small-scale sector is an important component of the Indian economy and contributes significantly to industrial output, exports and employment. This sector has seen steady growth during the past decade. The number of units increased from 2.38 million in 1993-94 to 3.44 million in 2001-02.¹⁷ During the same period the production increased from Rs. 2,416.48 billion to Rs. 6,903.96 billion and employment from 13.93 million to 19.34 million. The exports increased from Rs. 290.68 billion in 1994-95 to Rs. 697.97 billion in 2000-01. The sector plays a major role in India's exports and contributes 45-50% of total exports (around 35% directly and 15% through merchant exporters, trade houses and export houses) (FICCI 2002).

It is estimated that a million rupees of investment in fixed assets in the small-scale sector leads to production of goods and/or services worth Rs. 4.62 million annually, with an approximate value addition of ten percentage points. This sector also creates the largest employment opportunities outside agriculture. It is estimated that Rs. 100,000 of investment in fixed assets in the small-scale sector generates employment for four persons (www.smallindustryindia.com).

Within the forestry sector, the focus has traditionally been on large enterprises. The SSFE sector, which processes the majority of forest products and provides employment to millions of poor people, has not received the attention it deserves. India has a very large number of poor (c. 260 million) and indigenous peoples (c. 80 million), many of whom depend on forest-based livelihoods. Millions of poor people earn their livelihood through fuelwood and NTFP collection, processing and sale. It is estimated that NTFP-based SSFEs alone provide up to 50% of the income of 20-30% of the rural labour force in India (Gol 1999). Landless and poor women often form a significant proportion of the labour force in many SSFEs. Even among landed farmers, earnings from SSFEs usually improve their income security and reduce pressures that lead to over-exploitation of the agricultural land base (FAO 1986). SSFEs also boost the local economy through local purchase of raw material e.g. farm grown timber from farmers, and improve the technical skills of the workers. It is anticipated that as the capacity of agriculture to generate additional livelihoods progressively declines, more and more rural people will turn towards employment in SSFEs and other small-scale enterprises in future.

SSFEs can play an important role in improving rural livelihoods, especially of the poor. This not only reduces pressure on scarce agricultural land but also decreases stress out-migration from rural areas into cities, where the poor often end up living in slums under sub-human conditions. Some of the characteristics of SSFEs that indicate their suitability for generating local livelihood opportunities for the poor and other vulnerable groups are as below:

- they are small in size and are often household based;
- they are predominantly rural and frequently seasonal;
- they are labour intensive and use simple technologies;
- they require very low capital inputs;
- they are accessible to low income and socially disadvantaged groups;
- they provide direct benefits to the local economy; and,
- women are heavily involved, often forming a majority of the labour force.

(FAO 1987, ISST 1988; in Campbell 1991).

The contribution of SSFEs to rural livelihoods, especially collection and household level processing based enterprises (e.g. leaf plate stitching, rope making, etc.) is poorly understood

¹⁷ According to another estimate, the number of SSI units increased from an estimated 0.87 million in 1980-81 to over 3 million in 2000 (www.smallindustryindia.com/ssiindia/performance.htm).

and these entrepreneurs face serious policy bottlenecks that limit their returns. For instance, most commercially important NTFPs are nationalised and collectors are not allowed local processing for sale.

Farmers are now major producers of industrial wood in India. However, their contribution is not adequately recognised. They face a number of constraints such as requirements for felling and transit permits and restrictions on growing and sale of certain forest products. Over 63,000 community groups are protecting and managing over 14 million hectares of forests (over 18% of all state forest lands). They have begun to produce millions of tonnes of forest produce annually but their production role has received scant policy attention. Many JFM groups are facing serious marketing problems and this is threatening the future of the entire JFM programme. Marketing problems have already been faced in pioneering JFM states such as West Bengal and Haryana.

By and large, the current role and contribution of the SSFE sector as well as its potential in improving resource management and livelihoods - though very significant - is poorly understood by resource managers and planners alike.

This is mainly due to scattered data and lack of aggregated information at the national level. The available information is scattered in different departments and ministries, industry associations, etc. Often the published information is dated and contradictory and one needs to consult several sources to validate the information. A further complicating factor is that a large number of SSFEs are in the unorganised or informal sector for which no "official" data is available and thus one has to rely on different estimates and guesstimates. The informal sector plays an important role in the economy but its role is often poorly understood or appreciated.

While, there is some understanding regarding enterprises based on "forest goods", there is little or no understanding of the status or potential of enterprises based on "forest services" such as ecotourism, carbon trading, watershed services, etc. There is a need to sensitise planners regarding the potential of these.

Considering the immense importance of SSFEs in improving the livelihoods of the poor as well as forest resource management, in-depth research is needed to understand the current situation, potential and various opportunities and constraints including policy bottlenecks. Such research needs to be carried out each commodity-wise (e.g. paper, medicinal plants and cosmetics, etc.) as often each commodity group has its own unique set of issues.

Annex 1: Statewise distribution of registered woodware units and number of artisans in India

State	No. of registered woodware units	No. of registered artisans	Block moulding patterns units	Furniture & fixture units	Toys & decorative pieces units	Other household products units	Other woodcraft products units	Articles made of plant roots	Wooden statues
Andhra Pradesh	662	1,046	10	175	418	40	19	-	-
Arunachal Pradesh	247	1,046		181	16	35	15	-	-
Assam	1,090	3,425	111	678	162	79	60	-	-
Bihar	2,897	8,446	-	2,897	-	-	-	-	-
Goa	81	152	-	16	-	47	18	-	-
Gujarat	641	2,261	68	161	279	75	58	-	-
Haryana	711	3,219	12	182	129	242	146	-	-
Himachal Pradesh	1,266	1,965	115	999	77	28	47	-	-
Jammu & Kashmir	2,167	8,693	8	62	2,058	39	-	-	-
Karnataka	5,147	8,602	41	463	4,449	13	181	-	-
Kerala	1,639	3,419	28	551	847	75	138	-	-
Madhya Pradesh	2,613	4,570	207	686	748	893	79	-	-
Maharashtra	7,107	13,108	542	2,982	326	1,966	1,291	-	-
Manipur	8,710	34,436	890	2,489	774	2,649	1,426	126	356
Meghalaya	459	2,095	6	343	38	63	9	-	-
Mizoram	35	101	-	-	33	1	1	-	-
Nagaland	4,483	20,110	516	899	1,170	1,003	858	26	16
Orissa	875	1,807	48	376	337	92	22	-	-
Punjab	149	353	-	116	-	33	-	-	-
Rajasthan	14,803	45,718	548	3,201	7,434	2,993	627	-	-
Sikkim	195	557	-	4	6	179	6	-	-
Tamil Nadu	360	1,532	30	95	178	25	32	-	-
Tripura	6,601	20,659	868	5,514	31	116	72	-	-
Uttar Pradesh	257	34,689						-	-
West Bengal	17,709	35,447	400	1,994	615	14,047	653	-	-
Delhi	963	2,361	44	445	140	269	65	-	-
Union Territories									
a.Andaman & Nicobar Island	171	369	-	83	43	-	45	-	-
b.Chandigarh	3	15	-	3	-	-	-	-	-
c.Dadra & Nagar Haveli	-	-	-	-	-	-	-	-	-
d.Daman & Diu	-	-	-	-	-	-	-	-	-
e.Lakshwadeep	13	27	-	-	-	-	13	-	-
f.Pondicherry	35	261	2	8	16	6	3	-	-
Total	90,089	2,60,933							

Source: WWF 2003

Annex 2: India's exports of woodcraft products

<i>Year</i>	<i>Export (million Rs.)</i>
1975-1976	61.9
1976-1977	77.6
1977-1978	101.4
1978-1979	137.0
1979-1980	382.6
1980-1981	183.0
1981-1982	202.5
1982-1983	164.0
1983-1984	170.0
1984-1985	154.2
1985-1986	127.1
1986-1987	172.5
1987-1988	206.6
1988-1989	249.6
1989-1990	376.7
1990-1991	418.3
1991-1992	574.3
1992-1993	841.2
1993-1994	1,011.7
1994-1995	1,213.6
1995-1996	1,534.6
1996-1997	2,187.0
1997-1998	2,278.3
1998-1999	2,860.4
1999-2000	3,489.5
2000-2001	4,344.4

Source: Export Promotion Council for Handicrafts 2000, in WWF 2003

Annex 3: An illustrative list of items reserved for exclusive manufacture in the small-scale sector

Wood and wood products

Sawn timber
Wooden crates
Tea chest plywood
Seasoned wood
Wooden sewing machine covers
Cable drums for AA ACSR conductors
Tent poles
Wooden plugs
Handles – wooden bamboo
Teak fabricated round block
Wooden storage cupboards
Wooden storage shelves and racks
Wood wool slabs

Paper products

Waxed paper
Bitumenised waterproof paper
Decorative papers
Paper bags
Composite containers (unlimited)
Paper board cartons (unlimited)
Paper cups/ plates
Paper envelopes
Corrugated fibre board containers
Paper twines, strings and ropes
Paper cones
Paper tubes
Drinking straws
Paper napkins including facial tissue napkins
Gummed tape
Teleprinter rolls
Stencil paper
Tele-tape rolls
Slitting ordinary paper into rolls and sheets
Toilet paper rolls and sheets
Paper straps
Stickers, labels of gummed paper etc.
Treated tracing paper
Gummed paper for stamps
Gummer paper other than for stamps
Sanitary towels
Transfer labels
Exercise books and registers
Letter pads
File covers and file board

Other miscellaneous products

Several rubber-based products

Sweetened cashewnut products
Shuttle cocks
Hockey sticks
Pencils
Wooden-boats body building
Truck body-building-wooden structure

Source: www.smallindustryindia.com

Annex 4: Forest produce on the negative list of imports

1. Prohibited items

None

2. Canalised items (for exclusive state trading)

None

3. Canalised items (with provision for special import licences)

- Cassia, cinnamon bark, cinnamon tree flowers, tejpatta, cloves: to be imported through Spices Trading Corporation Limited, or NAFED; Special import licence available at 5 times the value of imported goods
- Mahua oil (not edible grade), oil cake and oil cake meal expeller variety; residues babool seed extraction; oil cake of neem seed extraction: to be imported through State Trading Corporation, or Hindustan Vegetable Oils Corporation

4. Restricted items (subject to licences)

- Nutmeg, mace, tamarind seed and paste
- Neem seed, leaves, powder and extracts
- Bidi wrappers (tendu) and bidi, mohua flowers, soap nut and soap nut powder, katha
- Eucalyptus oil in bulk form (under special import licence)
- Silk worm cocoons, raw silk and silk yarn
- Matting, basketwork and wickerwork

Wood-based products

- Newsprint
- Composite paper and paper board
- Wall paper, oiled paper and numerous consumer items made of paper
- Sandalwood chips
- Toys of wood (under special import licence)
- Brooms and brushes
- Safety matches
- Woodwork (including carving) of rosewood, sandalwood, shisham, walnut wood; lacquer work and inlay work
- Wooden frames, marquetry, inlaid wood, statuettes (under SIL)

Source: MoC 1998, in Singh 2002

Note: Subsequent to August 1998, certain items have been removed from the above list through relevant notifications.

Annex 5: Forest produce on the negative list of exports

1. Prohibited items

- Plants and parts of plants of wild varieties of 29 specified species, including 18 species notified under appendix I and II of CITES; except with a legal procurement licence issued by the Chief Conservator of Forests or Divisional Forest Officer of the relevant area, and with a prescribed CITES permit for export (in respect of the 18 listed species). In the case of cultivated varieties of the above species, it is necessary to obtain a certificate of cultivation from the same authorities. Exports are only permitted through select ports.
- Wood and wood products in the form of logs, timber, stumps, roots, bark, chips, powder, flakes, dust, pulp and charcoal (except sawn timber made exclusively from imported logs or timber, subject to specified conditions)
- Sandalwood in any form (except finished handicrafts, machine crafted products and oil)
- Red sanders wood in any form (excluding certain value added products)

2. Canalised items

- Gum karaya: may be exported only by TRIFED

3. Restricted items

- Seeds of Red Sanders, sandalwood, neem, and all forestry species
- Silk worms, silk worm seeds and silk worm cocoons
- Waste paper

Source: MoC 1998, in Singh 2002

Annex 6: Comparison of import duties on selected forest-based products: 1990-91 vs. 2000-2001

In the year 2000-2001 there were 4 basic rates of customs duty: 5%, 15%, 25% and 35%.

<i>Item</i>	<i>Basic duty 2000-01</i>	<i>Basic duty 1990-91</i>
Fuelwood, wood in chips or particles, sawdust, wood waste and scraps, wood charcoal	5%	60%
Wood in the rough	5%	60%
Mechanical and chemical wood pulp	5%	40%
Pulp of fibres from recovered paper and paper board	5%	100%
Recovered paper and paper board	15%	100%
Newsprint	15%	60%*
Tanning extracts of vegetable origin	15%	50-80%
Wood sawn or chipped lengthwise (>6 mm thick)	25%	60%
Wood wool and wood flour	25%	60%
Hoop wood, split poles, piles, pickets, stakes and sticks	25%	60%
Hand tools and toys	25%	60%
Fibre board of wood or other ligneous material	35%	100%
Particle board and similar board of wood or other ligneous material	35%	60%
Veneer sheets, sheets for plywood, other wood sawn lengthwise (<6mm thick)	35%	60%
Plywood, veneered panels and similar laminated wood	35%	60%
Densified wood frames, packing cases, tools, table and kitchen ware, marquetry, inlay work, statuettes	35%	60%
Wooden furniture	35%	100%
Miscellaneous paper products	35%	100%
Bamboo, rattan, and other material used for plaiting	35%	60%
Plaits, mats, basketwork, wickerwork	35%	60%
Vegetation material used primarily in brooms and brushes	35%	60%
Brooms, brushes and pencils	35%	100%
Natural honey	35%	100%
Lac, natural gums, resins, gum resins, oleoresins	35%	60%
Cinnamon and cinnamon tree flowers, cloves, nutmeg, mace and bay leaves	35%	150%
Colouring matter of vegetable origin	35%	150%
Silk worm cocoons	35%	50%
Raw silk	35%	30%
Silk yarn	35%	50-100%
Raw or processed sisal fibre	35%	40%
Tobacco items	35%	100%

* plus Rs. 1000/ tonne

Source: Singh 2002

Annex 7: Structure of the paper industry (1970-1985)

	1970		1975		1980		1985	
	<i>No. of units</i>	<i>Capacity (tonnes)</i>	<i>No. of units</i>	<i>Capacity (tonnes)</i>	<i>No. of units</i>	<i>Capacity (tonnes)</i>	<i>No. of units</i>	<i>Capacity (tonnes)</i>
Large	13	5,71,000	16	7,75,160	21	10,43,960	23	11,45,860
Medium	5	70,940	7	98,100	10	1,44,000	17	2,73,500
Small	39	1,12,980	51	1,68,910	92	3,50,205	211	9,41,295

Source: Rao 1989

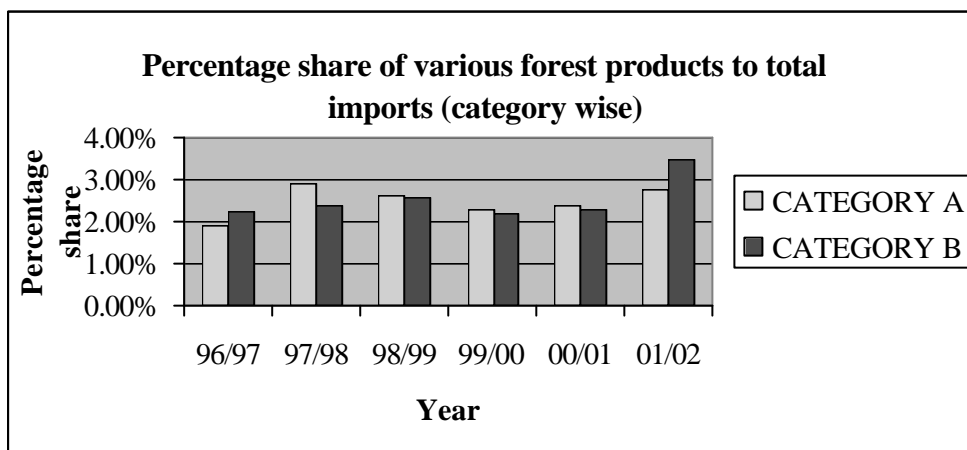
Annex 8: Trends in import and export of forest products

General trends

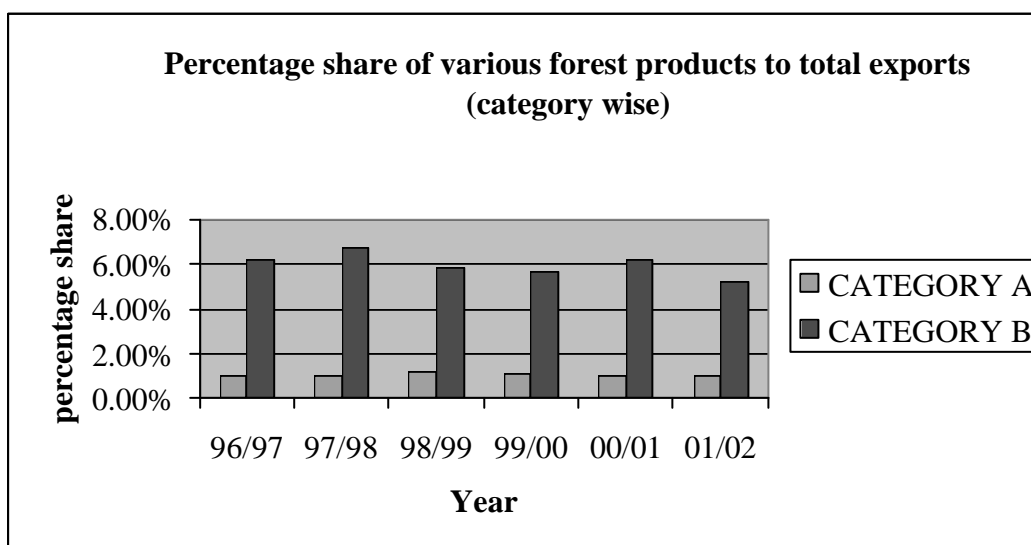
It is difficult to get a clear picture regarding imports and exports of forest products as the data is categorised in such a way that often several forest and non forest products are clubbed together in one commodity class.

In order to overcome this problem, we classified the existing commodity classes with forest products into two separate categories, A and B. Commodity classes with forest products as the major component were classified as Category A and those in which forest products are likely to be minor component were classified as Category B.

The trend of forestry imports and exports as a proportion of total imports and exports (Category A) between 1996-97 and 2000-02 indicates that while forestry imports have fluctuated between approximately 2% and 3% of total imports, forestry exports have always remained around 1% of total exports (see Figures below).



Percentage share of various forest products to total imports



Percentage share of various forest products to total exports

Export-import figures for major forestry products from 1996-1997 to 2001-2002 (in Rs. billions)

<i>Year</i>	<i>1996/97</i>	<i>97/98</i>	<i>98/99</i>	<i>99/00</i>	<i>00/01</i>	<i>01/02</i>
Export	11.954583	13.575541	16.436287	18.635352	20.536113	21.101393
Import	26.92424	45.834377	46.41685	51.363152	56.839757	238.336445

Log imports

Due to reduced availability of domestic logs as a result of the green felling ban in several states and restrictions imposed by court rulings on the movement of timber from North-East India and the Andaman and Nicobar Islands, there is an increasing trend of log imports into India. The government is also encouraging imports of logs rather than finished products through differential duty structure.

Imported timber is used in different industries like plywood, construction, furniture, etc. The paper industry has so far preferred to import pulp rather than pulpwood. Major timber exporting countries to India are Malaysia, Myanmar, Indonesia and Papua New Guinea in the Asia-Pacific region and Nigeria, Togo, Gabon and Ivory Coast in Africa.

Major timber handling ports in India are New Mangalore, Kandla and Tuticorin. Apart from these ports, timber logs are also handled at Visakhapatnam, Kolkata, Chennai and Mumbai. Imported logs coming to India are transported by road to different parts of the country. The average parcel size of individual importers varies from 300 tonnes to 1,000 tonnes. The following table broadly shows the movement of imported logs from different Indian ports.

Locations served by different ports

<i>Port</i>	<i>Locations served</i>
Kandla	Jammu and Kashmir, Punjab, western Uttar Pradesh, Delhi, Haryana, Gujarat, Rajasthan, Madhya Pradesh
Mumbai	Maharashtra, south Gujarat
New Mangalore	western south India
Tuticorin	eastern south India
Chennai	in and around Chennai
Visakhapatnam	in and around Visakhapatnam
Kolkata	North-Eastern States, Bihar, eastern Uttar Pradesh, Nepal

Source: <http://www.itto.or.jp/newsletter/v9n3/11.html>

Port statistics show a significant increase in the timber imports to India in recent years (see Table below).

Timber logs imported through selected ports ('000 tonnes)

<i>Port</i>	<i>1996-97</i>	<i>1997-98</i>	<i>1998-99</i>	<i>1999-2000*</i>
New Mangalore	251	377	308	250
Tuticorin	187	257	340	450
Kandla	187	n/a	n/a	450
Mumbai	46	124	139	135

**Estimated figures based on discussions with industry players*

Source: <http://www.itto.or.jp/newsletter/v9n3/11.html>

It is estimated that India imported 1 million tonnes of logs in 1997 and the imports increased to 1.45 million tonnes in 1999-2000. The imports are mostly of tropical hardwoods with a small percentage of conifer logs. If the present policies continue, the trend of increasing imports is also likely to continue. Kandla and Tuticorin are likely to become major log handling ports because they have the advantage of space where the logs could be stored for long periods, whereas in ports like Mumbai importers have to move the logs within three days otherwise heavy demurrage is charged.

(Source: <http://www.imaritime.com/resources/research/monitor/Archives>)

Paper and newsprint

Recent trends in exports and imports of paper and newsprint are shown in Tables below. These figures indicate that while India is more or less self sufficient in paper production, it is heavily dependent on imports for meeting its newsprint needs. Even in the case of paper, significant quantities of pulp/wastepaper are imported by Indian paper mills.

Recent trends in paper production, import and export (lakh tonnes)

<i>Year</i>	<i>Installed capacity</i>	<i>Production</i>	<i>Demand</i>	<i>Import</i>	<i>Export</i>
1996 – 1997	4,520	4,050	4,000	110	100
1997 – 1998	4,520	4,150	4,100	300	60
1998 – 1999	4,963	4,275	4,223	271	70
1999 – 2000	5,200	4,567	4,437	277	100
2000 – 2001	5,200	4,795	4,726	200	200

Source: ICFRE 2001

Recent trends in newsprint production, import and export (lakh tonnes)

<i>Year</i>	<i>Installed Capacity</i>	<i>Production</i>	<i>Demand</i>	<i>Import</i>
1996 - 1997	769	302	650	547
1997 - 1998	783	410	700	500
1998 - 1999	816	500	735	496
1999 - 2000	840	600	780	350
2000 - 2001	950	700	780	487

Source: ICFRE 2001

Annex 9: Functions of the National Medicinal Plants Board

Co-ordination with Ministries/ Departments/ Organisations/ State/ Union Territory (UT) Governments for development of medicinal plants in general and specifically in the following fields:

1. Assessment of demand/ supply position relating to medicinal plants both within the country and abroad.
2. Advise concerned Ministries/ Departments/ Organisations/ State/ UT Governments on policy matters relating to schemes and programmes for development of medicinal plants.
3. Provide guidance in the formation of proposals, schemes and programmes etc. to be taken by agencies having access to land for cultivation and infrastructure for collection, storage and transportation of medicinal plants.
4. Identification, inventorisation and quantification of medicinal plants.
5. Promotion of ex-situ cultivation and conservation of medicinal plants.
6. Promotion of co-operative effort among collectors and growers and assisting them to store transport and market their produce effectively.
7. Setting up of database system for inventorisation, dissemination of information and facilitating the prevention of patents being obtained for medicinal use of plants, which is in the public domain.
8. Matters relating to import/ export of raw material, as well as herbal cosmetics including adoption of better techniques for marketing of products to increase their reputation for quality and reliability in the country and abroad.
9. Undertaking and awarding scientific, technological research and cost-effectiveness studies.
10. Development of protocols for cultivation and quality control.
11. Encouraging the protection of patent rights and IPR.

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Small and Medium Forestry Enterprises (SMFEs) carry out most of India's forest-based production and processing. While the government owns most forests, the bulk of SMFEs are in the private sector. These SMFEs generate significant employment in India with tens of millions of people working in diverse timber and non-timber forest products sectors (for example, 30-40 million people are directly or indirectly involved in the beedi industry alone). Many products such as medicinal plants also earn valuable foreign exchange. The policy environment in India has historically favoured SMFEs through direct protection and concessions – but this is changing. Simultaneously, access to forests and forest resources has become increasingly difficult. But new opportunities are emerging for household and community level enterprises, for example in the 14 million hectares of forest within the Joint Forest Management programme. The contribution of SMFEs to rural livelihoods merits greater attention – collating scattered information, identifying major constraints and improving the policy environment.

This study was commissioned as part of a cross-country initiative coordinated by the International Institute for Environment and Development (IIED) on Small and Medium Forest Enterprise. Most international attention in forestry has been given to improving the conditions for large-scale or micro-scale forestry, and much less to the 'messy middle' – which produces a high proportion of forest product and involves huge numbers of people. The aim of these studies is to raise the visibility of SMFEs and assess ways by which they can better contribute to reducing poverty and improving the prospects for sustainability.

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