Chapter Two
DIFFERENT INSTITUTIONAL ARRANGEMENTS FOR WOOD HARVESTING AND METHODS OF SALE

The previous chapter dealt with the status of Forestry in India and the environment in which the forest managers worked. Opportunities for the marketing in forestry were highlighted. The trend towards adopting a business approach in forestry and orientation towards modern management in the system were indicated. This chapter attempts at describing the wood growing and wood harvesting practices in India. Different institutional arrangements employed for harvesting and selling wood and various methods of disposal which are followed by Forest Departments will be discussed. This chapter is thus an extension of the first which will help in understanding the whole forestry system in India.

Versatility of Wood:

There are numerous forest products derived from forests. For example, trees give timber, firewood, barks, fruit, flowers and leaves. They also give thorns, gums, and other oleo-resins. They yield essential oils, damars, colours and dyes. These are direct and tangible products. Trees in forests provide shelter to wildlife. Trees by their presence protect soil, maintain moisture regime, purify atmosphere by absorbing carbon-di-oxide and releasing oxygen, they enhance rainfall
and so on. Forests have a value for aesthetics and recreation. All such products of forests are called the unseen or intangible (but important) forest products.

Wood, however, forms the most important product of forests and has many uses in form of timber or firewood. Most common uses of wood in timber form are for: bridge building; housing and super-structure; railway sleepers; mine props; paving blocks; under-sea water piles for jetties; ship and boat building; packaging; crate and barrel making; tea chests; match splints and match boxes; tent pegs; poles; sports goods; bows and arrows; rifle butts; shuttles and bobbins; picker arms; shoe lasts; pencil slats; toys; picture frames; musical instruments; walking sticks; battons and sticks; tobacco pipes; agricultural implements; bullock carts; and so on. Firewood is used for burning, for manufacture of charcoal, manufacture of alcohol and gases and active carbon. Wood is called as a 'capsulized sun shine' by many. Man needs wood for many of his needs throughout his life. Even in death he needs wood. For example, it is now established that a human body needs 450 Kgs of firewood to burn. In short, as Brown¹ says, "all of us can reach out almost any time and touch something made from wood". This study is therefore restricted to the marketing for wood, i.e. timber and firewood. In the forestry language timber and firewood are called as the Major Forest Products. All other products from forest are grouped as Minor Forest Produce (MFP).

¹Versatile Wood Waits on Man: Andrew H Brown - The National Geographic Magazine: July 1951
Kinds of wood produced by Forest Trees:

It is necessary to understand the wood production in forests before one considers marketing it. A tree grows wood in the stem and on its branches. Wood formed on the stem is technically called as Stem Timber and other wood is called Small Wood. All the wood above 20 cm in diameter measured under bark, is called as stem timber. Likewise small wood is the wood below 20 cm diam and up to 5 cm diam. Timber is defined as "any wood suitable for building or for use in carpentry; the wood from growing trees suitable for structural use; growing trees themselves; a single beam or piece of wood forming or capable of forming, part of a structure" (Chamber's Dictionary). Timber includes round wood as well as sawn wood in India. Whereas in USA, Lumber is the word for sawn wood and is measured in board feet (1 Bft = 12"x12"x1"). Timber is measured in cubic metres and firewood in metric tonnes in India i.e. former by volume and the latter by weight.

Until recently only a few tree species in India were commercially important. Other tree species had no demand as timber but were valuable as firewood. Increasing shortage of valuable tree species (Fir, Spruce, Deodar, Chir, from coniferous group and Sal, Teak, Rosewood, from hardwood-broad-leaved species) and rising prices, as well as the technological innovations in utilization, have created demands for many species hitherto considered as useless. Conversion of wood
into charcoal and paper pulp has opened up new opportunities. Technology has also affected the form of wood that can be used. For example, particle boards, or 'reconstituted' wood as a class, makes possible use of any form of wood, to produce any desired dimension of wood panel, unlike the sawn wood. In timber, the dimension (and defects) of round wood determine the dimension of sawn sizes. Sagrojya\(^2\) says, "over 2000 species of wood are found in Indian forests; therefore, it should not be difficult to find a timber suited to any purpose." Important properties sought in any timber are: anatomical structure, specific gravity, strength, hardness, flexibility, elasticity, toughness, seasonability, durability, colour, grain, freedom from defects, workability in using tools, etc. Research has found many so far unpopular trees species quite suitable to give timbers for specific uses now and also as valuable substitutes for many imported timbers.

Process of Wood Production in the Forests:

Growing of wood is a natural action of trees. Kind of wood produced depends upon the species, physiology and growing conditions of a particular site. Such growing conditions in turn depend upon the geographical location and the locality factors, such as geology, soil, temperature, precipitation, and climate. Biotic factors, like animals, both wild and domestic—and activities of man, affect growth. All these

factors combinedly determine the quality of the given site. And the tree growth indicates the Site Quality in forestry. Site Quality is considered before prescribing any treatment to the forests under scientific forest management. The treatment in turn depends upon the objective to be achieved in growing trees. This objective may be economical, protective, bio aesthetic or a judicious combination of two or more of these. \(^2\)Forests take a long time to mature and it is therefore essential to have a written plan to ensure the continuity of action, even beyond one generation of forest managers. The aim of forestry management is to produce forest goods and services on a sustained basis, at the least economic costs of maximum possible quality, primarily for the benefit of the community, along with a maximum possible revenue to the owner of the forests.\(^4\) The scientific forestry achieves this purpose through a written document called as a 'Working Plan'.

**Working Plan and Product Mix in Forestry:**

A Working Plan contains the history of forests. It includes many aspects, such as the objects of management; the treatment given in the past and the analysis of its effects; estimate of demand for forest produce; the silvicultural system considered most suitable for the given forest area to grow

\(^2\)Sagreiya: Ib id; p 191

\(^4\)Forester's Companion: AR Maslukar - Jugal Kishore & Co, 2nd Revised Edition: p 143
desired produce; determination of the annual yield (or allowable cut); a plan for development of communications and other infrastructure; reboisement of cut forests by ensuring regeneration through natural or artificial means; and specifications for the overall maintenance of the forests. The number of trees to be cut annually and the quantity of the produce to be obtained is prescribed. Basic principal underlying these prescriptions in forest management is to avail a certain quantity of yield from the forests on a sustained basis, without cutting into or impairing the capital asset or growing stock. This is the principle of "Sustained Yield" in forestry parlance. As the trees are the production units as well as the product themselves, it is evident that the increment obtained by a group of trees is harvested in form of certain number of trees from them, which collectively equal the volume of the annual or periodical increment put on by that forest. This yield from a forest is harvested in a sequence of fellings spread over the period of a working Plan. Intermediate fellings (called thinnings) are done for crop improvement. Final fellings are carried out at the end of predetermined period of growth or rotation. All the fellings are carried out in the felling units, called as coupes. Each type of felling produces a different kind and a different mix of forest produce. For example, a thinning carried out in the earlier age of a crop produces mostly poles and sticks with small quantity of fire-
wood. Felling in mid-rotation produces timber, poles, branchwood and firewood. Final felling produces mostly timber and firewood and so on.

Agency for wood production:

Forests are under the administration of State Government and hence the responsibility of growing and maintaining the forests rests with them. Trees grow the wood as a natural phenomenon. However, wood in a commercial sense, is not 'produced' unless it is harvested from the forest trees. The harvesting of wood or the "production function" in forestry is carried out by different agencies, employed by the Forest Departments. Understanding of the working of each such agency is necessary as it directly affects the marketing of the wood produced in government forests. The harvesting of wood is done through the following agencies in India.

i) Forest Contractors
ii) Forest Labourers' Cooperative Societies (FLCS)
iii) Departmental Working
iv) Forest Development Corporations (FDCs)
v) The user agency, such as Paper Mill, Kattha Manufacturing Units etc who obtain forest coupes on lease
vi) Removal of wood by local population under the rights and concessions

All the above referred agencies operate in Maharashtra State and hence a reference to that State will be made in the following discussion.
Forest Contractors or Lessees:

Sale of standing trees or leasing out forest areas to the forest contractors has been the predominant practice for harvesting wood in India, till the last decade. Hari Kant\textsuperscript{2} found that 70\% of the work of harvesting in India is still with the contractors. This practice is however on decline, particularly from the valuable forests and from more accessible forest areas. The Forest Department indicates the trees in the felling area or a coupe due for harvest in a particular year of operation as indicated in the Working Plan. Trees for removal are marked and enumerated in a coupe. Such marked coupes are then offered for sale by auctions or by tenders, depending upon the value of the crop as appraised by the Forest Department. For example, in Maharashtra, practice of calling tenders is restricted to sales where the value of material offered in one lot, exceeds Rs 50,000. However, in case of standing trees in the areas to be deforested for the purposes of land clearance for any other use than forestry, the tenders are called, when the value of offered material exceeds Rs 25,000. In rest of the cases the material is sold in open auctions to intending purchasers. The successful purchaser then makes an agreement with the Forest Department in writing on prescribed forms, and remits due amounts (generally in certain instalments) and is given the possession of the

\textsuperscript{2}Hari Kant: Wood Harvesting for Fuelwood: Table 23, p 21-22
He is also given certain time limit by the Department for completing his work. There are many rules and regulations regarding felling and transportation which a forest contractor is bound to follow. Appendix III explains the details of such conditions stipulated in a contract sale.

The contractor, after taking over the coupe from the Forest Department, makes his own arrangement for harvesting the wood. For this purpose, he employs one or two assistants called as Agents or 'Munshi' in India, who arrange labour, organize work of felling, conversion and extraction outside the forest. The entire work is executed with the aim of obtaining maximum possible outturn from the given coupe at the least possible costs. The contractors normally achieve this objective principally by (i) complete knowledge of the market; (ii) most efficient working involving least wastage, (iii) complete extraction, (iv) strict supervision of works, (v) timely operations with an eye simultaneously on market demand and economics, (vi) least overheads, employing the minimum possible employees and labourers. The working of forest coupes starts generally in the month of October and proceeds till middle of June every year in Central India. Depending upon the lease period (generally for one season, but in exceptional cases, and in inaccessible areas and large coupes, it can be two or three years) contractor arranges felling. Felling in the coupe is linked with the instalment paid to the government.
from the total amount of sale. Instalments help the department to control contractor's work. Timber business is generally done on borrowed money and credit is generally available on shorter periods (2-3 months) and at the rates of interest normally higher than bank rates. It is, therefore, imperative that the contractor minimises his risks, operates timely and releases his money. Most of the contractors ensure disposal of their material by advance contracts for supply to others, including industries, and thereby obtain the working capital.

The contractors in Maharashtra normally start working the coupes by October. They will first go for construction of extraction paths and roads immediately as the moisture remaining in the soil after rainy season helps in binding the soil and prevents its break-up soon under transport activity by carts and trucks. This minimizes expenses on road maintenance. There is seasonal variation in market prices for wood. Due to non-working season, there is less timber available in the market between July and October. Hence there is a good demand from 'starved' markets for fresh material immediately after monsoon. Therefore, the contractors strive hard to catch the 'First Sale', sometimes by end of November or early part of December. Good prices are obtained in first sale. Prices are again higher in March. But as one approaches monsoon, prices decline, particularly because of the short-time left for extraction. There is also a risk of carrying
unsold inventory through the rainy season and thus blocking the capital. Fear of deterioration of material during rains, especially for firewood, also causes decline in prices in later sales.

The Role of Contractors in Timber Trade:

The contractor works the coupe for himself which means he harvests wood for use in his own sawmills or for other use. He also works as an agent to other bigger contractor and gets certain commission for that. Maslekar found that the contractors who owned their sawmills earned better margins of profit in timber business than the contractors who only felled coupes and sold round wood. The margin of profit in timber trade for contractors ranged between 18 to 40%. Contractors grade the timber and sort them out in different groups according to the market demand. It is found that the contractors who own their sawmills do the sawing of round logs only after they receive firm orders from purchasers. Only bigger sawmills store sawn wood for ready sale off-the-counter. It is also seen that there is more money in timber than in firewood. Forest contractors strive more to get timber from felled trees than the firewood from their coupes.

The contractors' system of harvesting wood from forests, has gained and more and more public disfavour, particularly after the Independence. It is alleged that contractors exploit poor and backward adivasi labourers. The

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Maslekar; Study of Marketing of Wood Products in Maharashtra IIFM Monograph No 1 - Oct 1980
contractors over-exploited the forests, and caused damage to property and less of revenue to the exchequer. NCA has recorded that "In the disposal of forest produce, the system invariably involved contractors for logging and sale of standing coupes. It is not unlikely that pilferages from forests occur under this system. Though the neighbouring villagers can sometimes find employment in forestry operations, by no means could the system ensure a regular payment of living wages to the large sections of tribal and other population living in or near the forests. Perhaps other methods can be devised, under which adjoining rural labour can be directly employed to give them a sense of belonging, and by avoiding pilferage ensure a greater revenue to the State and less cost to customers".

Another important recommendation of NCA (42.15.1 – No 24, p 185) is, "As far as possible no sale of timber standing in the forests should be made. After departmental logging, either through employment of local labour or through labour cooperatives, all timber should be brought to a Sale Depot outside the forests and sale should be made at that point only". A very strong concern was expressed by the Prime Minister in this respect, while inaugurating the recent Central Board of Forestry (the highest policy making body in the country regarding forestry) meeting on 25 August 1980, at New Delhi: "The reckless and indiscriminate felling of trees ........ for immediate profit either by contractors or in the name of Development has
proved hazardous”. The Central Board of Forestry also has
recommended (NCA-Appendix 41.3 item 20) that “_________ A
direct interest in the people in the utilization of forests
should be installed. Intermediaries who exploit both the fore-
sts and local labour may be supplemented gradually by Forest
Labourers’ Cooperative Societies. The forest contractor is
thus seen as an unwanted intermediary.

Importance of Middlemen in timber trade:

In the existing forestry system the contractors may be
removed from felling works in the forests, but they come into
the picture in the disposal of forest produce. All said and
done the contractor has not been altogether eliminated. In
Maharashtra State, for example, working by forest contractors
has been greatly reduced. In 1962-63, there were 2006 total
coupes worked in the State out of which 1352 were worked by
contractors. In 1975-76 contractors worked only 343 coupes
out of a total of 1389. Under the Minimum Wages Act of the
State, the contractor is also obliged to pay the minimum wages
for all items of works as laid down for each year by the
Circle Wage Board (Appendix VIII). The contractors still
have a strong hold in timber trade. Timber as a resource is
so much unevenly spatially distributed and timber market is
so highly diverse, that the role of middlemen cannot be ___
posed with. As Duerr\(^2\) puts it “ultimately it is the middle-

\[^2\] William A Duerr: Fundamentals of Forest Economics: McGaw
Hill Book Co: 1960
men that ensure distribution of wood products from the point of sale by Department to final consumer. It is not always that they give fair price to the produce purchased by them. Over and above, there are certain services which only they can fulfil. Maslekar also found that increasing number of simultaneous sales by FDCs in neighbouring states of Madhya Pradesh, Maharashtra and Andhra Pradesh, along with increasing working of forests by the Department, have brought in their wake a system of Forest Contractors' Agents. There are a few established local timber merchants at each bigger government sale depot, who bid in government auctions on behalf of their 'principal clients'. They complete all the contractual formalities, pay the government dues, take delivery of material and arrange transport for their clients. They charge 2% commission on gross turnover for their services. At Paratwada Depot in Maharashtra, only three such agents purchased 90% of the material offered in successive sales. One of them had a share of 57.41%. There is a regular Timber Agents' Association at Ballarshah which is another famous timber sales centre in the State. These agents keep their clients posted up-to-date on the dates and quantities of each forthcoming sale and also advise their clients on the suitability of the timber being sold. They keep the requirements of their clients in mind while inspecting the material. Agents also make arrangements for lodging and boarding for the purchasers at the time of sale. It is also

\(^{2/}\) AR Maslekar: ib id p-79
found that the information flow is much faster through those agents, compared to the official channel in the Department. It will be evident therefore that the middlemen have a useful role to play in timber trade.

**Forest Labourers' Cooperative Societies (FLCS):**

Government encourages working of forest coupes through the Forest Labourers' Cooperative Societies (FLCS) with a view to prevent exploitation of poor and innocent adivasi (tribal) labourers working on forest works. It is also done with a purpose to involve them in forestry works so that a sense of belonging is developed in them. The movement was started in former Bombay State, of which Maharashtra and Gujarat are two parts. First FLCS was formed on 5 April 1947 in Bombay State. Since then the movement has been well established. In Maharashtra, there were 498 coupes (out of total 2006) in 1962-63 worked by FLCS. 706 coupes (out of 1389) were handled by FLCS in 1975-76. In 1978, there were 422 such FLCS in Maharashtra, with 56,400 adivasi members, who handled a total business of Rs 7.45 crores. Such FLCS are formed mostly in tribal areas of the State, and are established by the joint efforts of Forest Department (FD), Cooperative Department and social workers. Forest Department sets aside what is called as "an area of operation" for each Society. This is a part of working area - felling series - from a Forest Division. It is necessary that the felling coupes allotted to a FLCS have an
estimated turnover of Rs 1 lakh to make a society viable. It is sometimes necessary to allot more than one coupe to make up this requirement. According to an agreed formula of working, there are 33 items of expenditure (Appendix VIII) for felling trees, transport and sale, decided by the Wage Board. All the expenditure on these items is reimbursed to the Society at the end of working. Net profit (Gross Sales - Expenditure) remaining from working of the coupes, is shared by PD and FLCS in a proportion of 80:20 respectively. The norms of expenditure and wage rates are fixed annually for a forest circle by the Circle Wage Board which is formed under the Chairmanship of Conservator of Forests of that circle and the members represent the Cooperative Department, Forest Department, Members of Legislative Assembly, FLCS, etc. Forest Department provides all the technical guidance and entertains special staff in the field as well as in offices for FLCS working.

The movement of FLCS is working well in Maharashtra. Illegal removal of wood experienced in contractors' working, has been greatly checked. Labourers enjoy fair and assured wages. Over and above, share holders enjoy bonus and voting rights. However, even after 35 years of working the FLCS have not proved truly beneficial to all from the economic point of view. It is seen that the members of FLCS did not benefit much beyond wages and an occasional bonus. Their life has
not been anyway better than before. Comparatively, the sponsors and office bearers of PDCS flourished. Societies, over time, have also become victims of political game. The Forest Department, apart from losing 20% of the profits, suffers loss indirectly. Non-involvement and non-committal attitude of PDCS members invariably delays forestry works. Delayed extraction further delays sales and results in lower prices for the material. Many times the measurements of timber, grading, and lotting are unsatisfactory and disputed by purchasers. All these affect prices in sales. PICS, like the Department, can only sell their material by competitive bids in auctions. Very few societies have worked as desired by the Government and the 'spirit' of partnership advocated remained to generate. Cost consciousness is generally wanting eventhough reduction of costs benefits PICS in the end. Sagreya notes, "Experience has shown that such working (by PICS) not only results in lower receipts to the Forest Department, but it also does not give any appreciable profits to the member of the cooperatives. The only persons who gain are the so-called sponsors of the society. While the object is very laudable, namely, to associate forest dwellers with the protection and exploitation of forests, in practice the members of the cooperatives hardly earn a living wage. It would be desirable to replace the sponsors by a government agency".

10/KP Sagreya: Op cit: p 222
The FLCS working involves lot of procedural delays. Societies are required to apply for coupe allotment by February. Complicated cases normally take a long time as appeals are made to the FLCS State Federation in case of unfavourable decision by Circle Conservator of Forests. The coupe is also not worked by department pending the decision. By the time coupe is finally started, the 'first sales' mentioned earlier are over. Working gets delayed and it is common experience in Maharashtra that FLCS auctions are generally delayed in many cases. FLCS sales near Bombay are however not affected by delays because of keen demand in that city. FLCS make no agreement nor any deposits or securities are stipulated for them. FLCS obtain working finances from District Cooperative Banks and at times, working advances from the Forest Department. There is another basis of allotting forest working to FLCS, especially where clearfelling and planting is involved and timely operations are crucial. The Societies are given coupes on 'Logging Basis' wherein they work on piece rates or job rates and after payment of all wages due, they are given a 10% of total work expenses (of fixed and variable costs) as an incentive bonus. The works are carried out under full control of Forest Department. FLCS material is extracted to a sale depot and sold by auctions. Auctions are conducted by forest staff. Recoveries of sale amounts and delivery of sold material is handled by the Society.
Harvesting of forest produce by direct employment of labour by the Forest Department, at all stages is called as the departmental working in forestry. It was formerly resorted to in special circumstances, such as working a very valuable crop, protection of regeneration from damage during felling, regular supplies to special demands like defence, and for control over prices. The working can be of two types. In one case, Department engages labour from open market and executes the work under the strict supervision of forest staff. In other case petty contracts to worker gangs or even contractors are given for specific works as in case of logging, or transport. FLOS working on Logging Basis or Haulage contract for transport of material from forests to timber sale depots are such examples. Forest Department sometimes establishes what are called as Forest Villages to ensure labour. There are number of such forest villages established in Maharashtra since long. Allapalli in Chandrapur district is one of the oldest as well as the biggest forest village in India. In 1922 Government purchased 220 sq miles of forests in Allapalli from local tribal maharaja and put them under departmental working. Over the years, the crop is converted to very valuable teak plantations, which are now world famous. Maintenance of forest, marking, felling, conversion, sawing in government saw mill, transport to Ballarshah etc is done by the department's own labour.
Department maintains a fleet of trucks and tractors as well as elephants for this purpose. The expenditure is at the rates fixed specially for this purpose, but mostly it follows rates decided by the Circle Wage Board.

A Review of Departmental working:

It is found that the departmental working is less economical compared to contractors' working. Maslekar\(^{11}\) found that in Allapalli forests the Staff Salaries and Overheads amounted to 77.6% of total cost of production of teak timber excluding royalty. Sagreiya\(^{12}\) observes, "It is but natural that working departmentally is less profitable because this is a specialized calling ... a demand from public to stop sales through contractors (is) in the mistaken belief that departmental working will give more profit to the Government and the consumers will get forest produce at a lower price!" One of the biggest drawbacks in departmental working is the inexperience of supervisory staff. Expertise in this work is difficult to build as government servants are frequently transferred. Moreover, the job of Forest Officers has become so much \(\text{multiferos}\) that strict supervision of works is mostly not achieved though desired. Personal involvement and motivation is generally wanting with forest staff, as is the case with public servants in general. Forest staff is also not trained to be business minded. However, with the increased emphasis on departmental working as

\(^{11}\) AR Maslekar: ib id

\(^{12}\) KP Sagreiya: ib id: p 222
a policy, particularly with a view to offer steady employment in backward areas and also to ensure fair and adequate wages to forest labourers, this system is being adopted on increasing scale in forest working. In Maharashtra, 156 coupes were worked departmentally in 1962-63 out of total 2006 coupes. Whereas the number increased to 360 (out of 1389 coupes) in 1975-76. In some states entire forest working and trade in forest produce is nationalised since 1965-66. Departmental working becomes the only alternative in such cases.

**Forest Development Corporations (FDCs):**

Maharashtra Forest Department established a Forest Development Board (FDB) in the year 1968, to accelerate the pace of forestry in selected parts of the states. The primary objective was to increase the productivity of the miscellaneous, slow-growing, low-yielding, forests by clearfelling and planting with commercially valuable species like teak and bamboos. The Department placed some forest area at the disposal of the FDB for the purpose. The converted areas were to revert to Forest Department successively and more areas were to be offered to the Board. The Board was given full autonomy in its working and selected staff was deputed to the Board for execution of the works. Based on the experience of the FDB, the National Commission on Agriculture in its 'Interim Report - Man-made Forestry' 1972, came out with a recommendation to establish Forest Development Corporations, to handle the 'production' forestry in the country.
The concept of 3DCs was evolved by the NCA with the specific objectives of (1) making use of institutional finance, (2) ploughing back substantial portion of profits for development, (3) giving flexibility and freedom to managers to introduce innovations and take quick and timely decisions, and (4) to diversify production and to induct into the organization experts from related disciplines. The Food and Agriculture Organization of United Nations had also stressed that, "Production forestry is a business and that organization of Forest Service must, therefore, differ in some important respects from that of other government departments in which the duties are limited to the provision of services". In the same paper FAO emphasized that in order to enable forestry sector to develop its full potential, following should be done: (Selectively quoted):

(i) Forestry and forest industries administration should be given a relatively extra-governmental and more business like characters by making it a Corporation.

(ii) The administration of forestry departments should be guided not by the general body of rules and regulations which govern the civil service, but by a special set of rules and regulations which take into account the characteristics of forestry and forest industries sector, and the business nature of government forestry.

13/FAO - UNASYLVA: Vol 23(4) No 95 (1969)
The nation must be development oriented, and governments must provide forest administration with the necessary funds to perform their manifold duties. This may mean a special dispensation with regard to the time-honoured system of allocations through annual budgets.

The FDCs were assigned following activities by the National Commission on Agriculture:

(i) to harvest hitherto inaccessible/mixed quality forests transferred to it, by adequate investments on roads and machinery;

(ii) to plant, grow, cultivate, produce and raise plantations of selected species to meet the requirements for pulpwood, industrial timber etc, tailored to the needs of the State and the country;

(iii) to promote forest industries to utilize the wood released as a result of intensified felling programmes and utilization of subsequent planted material; and

(iv) to promote companies, firms etc for purpose of development of industries based on forest produce and to assist and finance them with capital and credit resources.

Advantages of Creating Forest Development Corporations in Forestry:

The FDCs are expected to enjoy following advantages, as compared to the working in Forest Departments, and hence bring about the desired changes more speedily and effectively.
(i) Diversification of activities which would otherwise be difficult under a Department of the Government.
(ii) Linking of forest production programme with marketing and utilization. Risk-taking in the field of marketing.
(iii) Greater capacity and scope for experimentation.
(iv) Undertaking tribal and rural welfare activities.
(v) Development of local skills, arts and crafts.

Considering all the above advantages and realizing the need for accelerating the pace of forestry development, the Government decided to establish Forest Development Corporations, in public sector. Consequently 16 FDCs have been established since 1973 in India. Majority of these FDCs handle the clear-felling, logging and planting activities involved in replacing the poorer crops by valuable commercial forest crops. Two FDCs concern themselves primarily with the production and marketing of MFP. A reference to the FDC in Maharashtra is made here with a view to explain its importance in wood harvesting in the state.

Forest Development Corporation of Maharashtra Ltd (FDCM):

Forest Development Corporation of Maharashtra Ltd was established in the state on 16 February 1974. It has the largest absolute coverage with areas spreadout in multiplicity of locations. FDCM is allotted 4284 sq kms or 7.45% of State's forest area. It has four regions with 20 Project Divisions.
PDCM has an annual target of 12000 ha of clearfelling and planting. In 1978-79 PDCM felled 14,500 ha area and harvested following forest produce: 14/.

<table>
<thead>
<tr>
<th>Product</th>
<th>PDCM</th>
<th>FDCM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timber</td>
<td>1,43,854 m$^3$</td>
<td>143,854 m$^3$</td>
</tr>
<tr>
<td>Charcoal</td>
<td>13,278 MT</td>
<td>13,919 MT</td>
</tr>
<tr>
<td>Gan Bark</td>
<td>5,192 MT</td>
<td></td>
</tr>
<tr>
<td>Fuelwood</td>
<td>7,70,347 m$^3$ (sticks)</td>
<td>770,347 m$^3$</td>
</tr>
<tr>
<td>Bamboos</td>
<td>15,278 Ml</td>
<td>19,919 Ml</td>
</tr>
<tr>
<td>Bark</td>
<td>5,192 Ml</td>
<td></td>
</tr>
</tbody>
</table>

FDCM accounted for 39.4% of wood produced in the State. Following table shows the comparative production of wood by the Department and the FDCM:

<table>
<thead>
<tr>
<th>Kinds of wood</th>
<th>Forest Department</th>
<th>FDCM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timber</td>
<td>309,000 m$^3$</td>
<td>143,854 m$^3$</td>
</tr>
<tr>
<td>Fuelwood</td>
<td>1,199,000 m$^3$</td>
<td>770,347 m$^3$</td>
</tr>
<tr>
<td></td>
<td>1,508,000 m$^3$</td>
<td>914,201 m$^3$</td>
</tr>
<tr>
<td>Total</td>
<td>2,322,201 m$^3$</td>
<td></td>
</tr>
</tbody>
</table>

The User Agencies:

Sometimes the Government assigns a forest area to an industry for obtaining its required forest raw material. There are various reasons for such decision. The raw material is scattered over large area. There is labour shortage. Departmental working is not feasible and scale of operations is large. Examples of this method of wood harvesting in Maharashtra are the removal of bamboos and pulpwood by the Ballarpur

14/ AR Maslekar: ib id: p 10
Paper Mill (BIIT), Khair wood by the Amba Katha Factory, Kolhapur and Matchwood by WICO from the state forests. The Department demarcates a particular area for such harvesting and enumerates all the extractable trees meant for specific supply. Such trees are serially numbered and offered in standing condition to the user. A royalty per tree basis or by volume of wood basis is decided by the Government and agreed upon by the concerned party. Strict watch is kept on the activities of the agency and detailed record of removal is maintained. Royalty is recovered on the actual outturn removed. As per the agreement, the firm deposits a security deposit before starting the work. It is also held responsible for any damage to other standing crop. Department controls the quantity of removal and route of transportation. The system is good where department cannot extract the material economically due to extensive acreage, inaccessibility of the producing areas, scattered nature of trees demanded, labour shortage, and so on. Inspite of all controls it is feared that the system encourages malpractices, such as over exploitation, under measurement, etc. It also opens forests to alien labour force and causes pilferage in forests. But the most important objection to this system is that the industry benefits more at cost of the public. This will be discussed further in subsequent chapters.
Removal of wood by people directly from Forests:

While considering various agencies of wood harvesting one also has to necessarily take into account the wood removed by the right and privilege holders from forests directly for their own consumption or for selling the surplus in market to earn their livelihood. Such concessions are entertained in all the government forests and it forms a part of forest policy also. Such produce is removed free of cost (dry and fallen wood by head-loads) or at a very nominal fee on passes. There are traditional agreements especially in ex-proprietary forests in Madhya Pradesh and Maharashtra under a system of Nistar. Bonafide agriculturists residing near the forests are allowed to remove certain specified quantities of forest produce under this system. It is very difficult to know the exact quantity removed for want of records. However, based on the prescribed scale of wood to be made available under the system, Maslekar estimated some 800,000 m$^3$ of wood removal from forests of eight districts of Maharashtra (in Vidarbha region) where the forests form 36.62% of land area. This wood is mainly used as firewood and for agricultural implements and hutments. It is logical to estimate that at lease half of this quantity reaches market in form of firewood carried on headloads to the townships. In a study of headload carriers (women) of Girnar Forests in Gujarat, Buch and Bhat have brought out the economic relation-

15/ AR Maslekar: ib id: p 192
16/ AN Buch and Ila Bhat: Firewood Pickers of Girnar, Self Employed Women's Association (SEWA): Ahmedabad: July 1978
ship between the survival of these tribal firewood pickers and the material they collect and sell in the market. Similar is the case everywhere. More and more firewood finds its way to the market from such forests and from private lands. Vanishing of trees from private lands has put an increasing burden on the government forests. One can safely say that in Maharashtra almost an equal quantity is being removed by people residing near the forests from the remaining 18 districts or a total quantity of some 1.6 million m$^3$ of wood is removed annually in the State. Question of illegal removal through pilferage is another unrecorded source of wood harvesting but for want of data no guess can be made about the quantity involved. It is, however, surmised that a considerable amount of wood is lost from the government forests through this channel.

Choice of Agency for Wood Production:

Different institutional methods of harvesting wood products and their sale depends on many factors. Johnston, et al$^{17}$ sum it up in these words, "The choice of the best methods of sale depends to a large extent upon institutional factors such as the business connections of the country, the degree of reliance on independent logging firms, and political attitudes towards private enterprise and monopolies". Sharma$^{18}$


$^{18}$IC Sharma: Forest Economics: Planning & Management: 1980: p 139
The following conditions need to be considered before making a decision on selecting either of the agencies of working forests:

i) The maintenance and improvement of forests.

ii) The checking of theft by the purchaser or the forest employees.

iii) A fair remuneration for the Government.

iv) The safeguarding of the interest of the local population.

v) The avoidance of unnecessary complications.

vi) The number and qualification of the forest staff available.

vii) The physical conditions of the locality.

viii) The quantity and quality of labour.

ix) The capabilities or financial standing of contractors or purchasers.

tax) The consideration of encouraging private enterprise.

Since circumstances vary from place to place and time to time, one cannot pick out any method as the best one in respect of working operations and gaining maximum returns in forestry working.

**Systems of Sale of Forest Products in India:**

Different agencies of wood harvesting were discussed so far. There are also different systems for sale of harvested material in forestry. It is necessary to understand them. They are grouped into two broad categories viz. Lump Sum Sale and Payment on Outturn Method, for the purpose of discussion.
i) Lump Sum Sale Method: Under this system, the government is assured of a fixed amount of sale proceeds for a lot comprising of an unknown quantity of forest produce. The Department auctions the lots under this system. Sale may be direct or by tenders. Purchaser is issued a licence for a stipulated period to extract the produce from a specified area of forest, called as a Unit. The exact amount of produce is known only on completion of extraction. System includes the sale of standing trees on contract and long lease to certain industries like paper mills, kattha industry etc. This form of sale is best suited when the quantity of forest produce such as fuelwood or minor forest produce (non-wood) is unknown at the time of sale. However, in this method, the amount proportional to the produce extracted is precisely not known till the end. It is only an estimate. Maslekar found that in the Forest Department estimates for selling standing trees, using prevailing 'conversion factors' (for estimating outturn of wood from standing trees) the timber was generally over-estimated whereas fuelwood was highly under estimated. Which means that estimated quantity of timber is not obtained, but more quantity is obtained than the one estimated in case of firewood.

ii) Payment on Outturn Method: This group includes every type of sale where the produce extracted compares favourably with the amount paid for it. This system includes the well known 'royalty system' where purchaser pays an agreed amount

12/AR Maslekar: ib id: p 25
per unit of produce extracted. The royalty is either based on volume, weight or quantity but without guarantee of extraction of estimated outturn from the Department. Following varieties of this system are obtained in India.

(a) Sale of a whole coupe: Under this system an individual or a firm is solely authorised to extract timber from a given forest area within a fixed period of time. Lessee makes the payment in lumpsum or in prescribed instalments. In case of minor forest produce, the system of lumpsum advance payment is more favoured.

(b) Sale of marked standing trees: In this method, the Department first selects and marks the trees to be removed, from a specified area called as coupe. The coupe is then sold by auction or by tender. This is the most common practice followed so far in the country. Sharma\(^{20}\) says that, "This system of disposal of trees in the forest suits the Forest Department best". Sagreiya\(^{21}\) also concurs, "Experience has shown that, provided strict supervision is exercised, such working gives higher profits than obtained under departmental working".

\(^{20}\) LC Sharma: ib id; p 138

\(^{21}\) KP Sagreiya: ib id; p 222
(c) Sale by Licences and Permits: This system is only followed in case of fulfilling demands for MFP, firewood or small timber to bonafide villagers residing around government forests. There are number of 'vendors' appointed by the Department to issue such permits, commonly called as 'passes'. People pay a nominal fee to obtain passes and collect the produce themselves. Such passes are obtained from the government treasuries and the vendor keeps complete account for them. He earns a small commission for doing this service. Gradually individual vendors are being replaced by Grampanchayats in Maharashtra State.

Selling Methods in Forest Department:

Two broad systems of sales were discussed above. There are four methods of selling forest produce from government forests under above systems. Brief comment here on each method is relevant for our discussion because auction is one of the methods and is the subject of our interest. The common methods of sale of forest products in India are

i) By negotiation or by private bargain
ii) By fixed tariffs
iii) By Auction, and
iv) By tender

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i) By Negotiation or Private Bargains:

This is the most common method of business transactions in private business world. Both the seller and purchaser meet and decide a mutually acceptable price for the material offered. It is however not favoured in forestry, mainly due to the facts that forests are a public property and forest managers have to conform to the government practice. Main tenets of Government working are the public accountability and the fair play or impartiality. There is however an exception made when government itself negotiates the prices of raw material supplied to forest based industries. For example, in Maharashtra a high level government committee, consisting of the Ministers of Finance, Forests and Industries of the State Government, negotiates the royalty payable to the Forest Department. No one else, even the Forest Development Corporation, has any authority to negotiate sales of forest products with private parties, without prior permission/approval of the Government. Such prices for raw material supplies are negotiated and fixed by the government to encourage industrial development in backward areas and also for employment generation, along with a fair return to itself.

ii) By Fixed Tariffs:

The tariffs or scheduled rates as they are called, are fixed by the Department for supply of wood to other Departments; public undertakings or for Off-the-Counter Sales in its
Depots and its Saw Milling-cum-Seasoning Units. Tariffs are fixed for certain dimensions or for certain units of volume. Tariffs are periodically revised to keep their parity with market prices, and are duly sanctioned by the government. Preparing schedules is not a simple arithmetical calculation but requires skill in modulating rates for each class/grade keeping in mind the specific demands observed in previous sales.

iii) By Auction:

This is the most common method followed by the Forest Department, the Forest Development Corporations and the FLCS. This is claimed to be the best method of sale, when there is a keen and healthy competition among buyers. Forest produce from government forest is sold in auction in most of the countries in the world. Worrel explains the basis for this in these words: "The administrators of public forests usually are restricted as to how they can sell the timber. Policy on sales varies but common is to require that they be made on a bid basis. National forest timber must be advertised long enough in advance so that any interested buyers may inspect it and submit a bid. Forest service makes its own appraisal to determine the minimum price it will accept. Sale then goes to buyer who makes the highest bid above the appraised price and meets other specified qualifications". According to the prac-

23/Albert C Worrel; Economics of American Forestry; John Wiley and Sons; 1959: p 406
tice, the auctions are held in auction halls, pandals or on site where bids are made by word of mouth in an assembly of buyers. Bids above the government price are accepted and the highest bidder is accorded the sale. Every bidder in an auction has to satisfy certain conditions and is required to deposit an earnest money (EMD) prior to bidding.

iv) By Tender: It is also a common method used in India for sale of forest produce above a certain value. It is also the most common method used by other trade for procuring supply of raw materials in industries. The tenders can be 'open' or 'sealed' types. Prospective buyers indicate their rates on a prescribed form issued at price, by the Department. Under sealed tenders, no tenderer is supposed to know the bids offered by other tenderers. In 'open' tender bids are known and discussed by tenderers. Sealed tenders are useful in breaking 'rings' or 'rigging', formed by buyers. Seller has an advantage as the seller generally reserves the right to accept or reject any tender without assigning reasons. The earnest money deposit (EMD) is always demanded along with tenders (and also in auctions) and blank tender forms are priced. Bids are accepted only on such prescribed tender forms. This ensures response of genuine tenderers.

In summary, various methods followed by Forest Departments, for sale of their forest products, are recalled below.
They are also obtained in Maharashtra State  

i) Sale of standing timber in the forest (stumpage sale) by open auctions or by tenders.

ii) Sale of logged/collected material at departmental jungle depots in forests by open auctions.

iii) Sale of logged, transported and collected, and graded material at prescribed sale depot centres, by open auctions.

iv) Sale of material by negotiation.

v) Supply of raw material to industrial units by long term leases on royalty basis, mutually agreed upon.

vi) Supply of raw material to other government departments and public undertakings on fixed scheduled rates.

vii) Sale of firewood at subsidized rates at departmental fair price shops.

viii) Sale of bonafide requirements of forest produce through 'vendors' on nominal fees on passes to agriculturists.

ix) Removal of products by concession or right holders from Government forests.

The present study attempts at looking into the role of auctions in disposal of wood products from government forests in India with a special reference to Maharashtra State.

Conclusion:

This chapter threw light on various wood harvesting practices followed by the Forest Department. Wood as grown

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24/ AR Maslekar: Marketing of Forest Products in India: A Note IIFM/IIMA 1979: p 5-6
on trees is truly called 'produced' when it is harvested. There are many agencies employed who carry out the harvesting. The chapter also looked into merits and demerits of each of such agencies. Different systems and methods of selling the produce were discussed. Auctions form a major method of sale in forestry working.