CHAPTER III

FOREST AND TRIBALS
3.1 Forests

Forest types have got great impact on the tribal life as they live in remote places and depend on nearby forests for their daily needs.

Many attempts have been made to classify forest vegetation of India. Champion (1968) was the first to describe the forest types of India. The valuable work is done by many others like Bharucha (1940); Bharucha and Parreira (1941); Razi (1952); Puri and Mahajan (1960); Puri and Patil (1957, 1960); Subrahmaniam and Rao (1961); Shaha (1962); Mahabale and Mahajan (1966) and Mahajan (1975). Lagris and Meher-Homji (1973) and Vartak (1973) have described the cross section of vegetation of Deccan trap and Konkan respectively. Vartak and his students worked on floristic and ethnobotanical aspect of Western ghats. (Vartak 1953, 1957, 1958, 1959a, 1959b, 1960, 1964, 1966a, 1966b, 1971, 1973; Vartak, Ghate and Kumbhojkar, 1985; Shyam, 1977; Mandavgane, 1978; Sane, 1983; Gunjatkar, 1985; Tosh, 1987 and Ghate 1987).

Heterogeneity in the area is due to topography, hydrography, geology and soil. The vegetation shows a spectrum
of variability along west to east, the gradient being correlated with the ascending contours from the sea coast to crest line of the ghats and along with the gentle eastern plains. Based on these factors forests of the area can be classified in following broad groups:

a) Evergreen forests (Plate 3.1A)

Characteristic evergreen elements described by Champion and Seth (1968) can not be defined in the area under consideration, however at the higher elevation (1000-1400 m), some evergreen patches occur with high rainfall. Examples of such type are - Mahabaleshwar, Bhimashankar, Ambavne etc. The common trees are, *Syzygium cumminni*, *Actinodaphne angustifolia*, *Terminalia chebula*, *Caryota urens*, *Mangifera indica* etc. Shrubs, herbs and climbers show dominance of *Desmodium gangeticum*, *Atylosia lineata*, *Elephantopus scaber*, *Entada pursaetha*, *Eleagnus latifolia* etc.

Some important medicinal plants from this type of forests are - *Terminalia chebula*, *Syzygium cumminni*, *Embelia ribes* etc.

b) Semi-evergreen forests (Plate 3.1B)

These forests show characteristic intermediate to evergreen and deciduous forests. The rainfall is 2000 to
Plate 3.1

A - An overview of evergreen forest

B - Semievergreen forest showing two tyre arrangement of vegetation.
4000 mm, with dry season of seven months. These forests cover the Konkan and higher elevations of eastern slope. Such forests can be marked out at Karnalaj, Mankeshwar, Malshej ghat, Bhandardara area etc. Here three tier arrangement of plants is very significant. The common trees are - Terminalia paniculata, Pongamia pinnata, Mallotus philipinensis, Macaranga peltata etc. Shrubs are - Murraya koenigii, Gnidia glauca etc. Herbs are - Haplanthus verticillaris, Rungia pectinata etc. The huge climbers - Dalbergia volubilis and Bauhinia vahlii are quite significant.

Pongamia pinnata, Terminalia belerica, Haplanthus verticillaris, Oldenlandia carymbosa etc., are significant medicinal plants that occur in this type of vegetation.

c) Moist deciduous forests (Plate 3.2A)

These forests are observed on gentle slopes of western ghats and plains, with 1500 - 2000 mm rainfall and dry period of 4-5 months. Bamboo thickets is a prominent feature of these forests. This can further be divided into two groups like - Moist teak bearing forests and Mixed deciduous forest. Tectona - Terminalia is a common community. It is common throughout the area of study. In mixed forests Tectona is absent and Ficus - Terminalia - Bridelia are very common.
Plate 3.2

A - Moist-deciduous forest showing *Terminalia-Tecton* community.

B - Inside dry deciduous forest of *Tectona*
Common trees are - *Mangifera indica*, *Bombax ceiba*, *Ougeinia oojenensis*, *Adina cordifolia*, *Wrightia arborea*, *Emblia officinalis* etc. Ground flora shows occurrence of *Lepidagathis cristata*, *Peristrophe bicalyculata*, *Hemidesmus indicus*, *Asparagus racemosus*, *Woodfordia fruticosa* etc.

Many plants with medicinal potential occur in this type of forests. Some of them are - *Anoegissus latifolia*, *Helicteres isora*; *Tinospora cordifolia*, *Asparagus racemosus*, all *Terminalia* sp., *Emblia officinalis* etc.

d) Dry deciduous forests (Plate 3.2B)

These forests are common on eastern slopes of western ghats with 750-1000 mm rainfall and 7-8 dry months. This is observed at Sinhagad-Katraj range of Pune district and Harishchandragad range of Ahmadnagar district. It can be further divided as dry teak bearing forests and southern dry mixed deciduous forests. In Pune district Babhul forests are common along river banks. Raverine forests are found in localised patches along banks of river where tree growth is observed e.g. *Pongamia pinnata*, *Ficus* sp., *Syzygium cumminsi* and many others.

With degradation by biotic and other factors these forests form three categories -

1) **Dry deciduous scrub** - Climax vegetation consists of *Anoegissus latifolia*, *Lannea coromandelica*, *Acacia chundra* etc.
ii) **Euphorbia scrub** (Plate 3.3A) - Mainly consists of *Euphorbia* species, in rainshadow areas.

iii) **Dry grasslands** - Only grass vegetation common in low rainfall tracts.

Some important medicinal plants from this type are as follows - *Anogeissus latifolia*, *Acacia nilotica*, *Glossocardia bosvalea*, *Evolvulus alsinoides*, *Achyranthus aspera*, *Asparagus racemosus* etc.

e) **Thorn forests**

This type of forests occur in low rainfall region, common at east-most part of Pune, Ahmednagar and Satara districts. *Acacia - Capparis* is a dominant community. A pure formation of *Zizyphus mauritiana* has been recorded at Sagargad.

Important medicinal plants are - *Dolicondron falcata*, *Gardenia gummifera*, *Zizyphus mauritiana* etc.

f) **Littoral and tidal swamp vegetation along the sea coasts** (Plate 3.3B)

This occurs along entire sea coast. It can further be divided into Beach plant community, Tidal forests and Inland vegetation. Mangrove species are commonly occurring and multiheaded palm *Hyphaene indica* and *Hyphaene thebaica* are endemic to west coast.
A - Pure formation of Euphorbia, a scrub forest

B - Typical coastal vegetation - showing coconut and sandy vegetation.
Interesting medicinal plants are - *Strychnos nux-vomica* in inland vegetation, *Datura innoxia*, *Pedalium murex*, *Acanthus ilicifolius*, *Cocus nucifera*, *Avicennia officinalis* etc.

**g) Ruderal vegetation (Plate 3.4A)**

This is a type where mainly herbs occur on waste places. It is observed at Baneshwar, *Acorus calamus* - a reputed medicinal plant growing abundantly on a bank of a nala where wastes are thrown by villagers. Common medicinal plants are - *Withania somnifera*, *Argemone maxicana*, *Gynandropsis gynandra*, *Xanthium strumarium*, *Abutilon indicum*, *Achyranthus aspera* etc.

**h) Grass lands**

Grass lands commonly occur in rainshadow area. The important medicinal plants are - *Evolvulus alsinoides*, *Tribulus terrestris*, *Glossocardia bosvalkea*, *Habenaria* species etc. (Plate 3.4B).

**i) Aquatic and semiaquatic habitats**

In monsoon period, heavy rains result into streams and sluggish brookes. In ponds and tanks aquatic, stoloniferous species occur. Floating and freefloating forms show dominance in this period. In fresh water pond sometimes cultivation of *Trapa bispinosa* is carried out. *Meligmos*
A - Acorus calamus - growing on waste place at Baneshwar

B - Grassland vegetation showing abundance of Tribulus terrestri and Glossocarida bosvallea
A - Pond vegetation showing aquatic habitats

B - Sacred grove - a treasure-trove of medicinal plants.
nucifera, Typha angustifolia etc. are important medicinal plants occurring in this vegetation type. (Plate 3.5A).

j) Sacred groves (Plate 3.5B)

Sacred groves are forest tracts or patches which have remained immune to human interference because of religious beliefs. They support climax vegetation and give idea of original forest from the area. To cut a tree or kill an animal from these forests is a taboo and village folks believe and respect this taboo even today (Gadgil & Vartak 1973). These groves harbour magnificent specimens of trees and climbers. For example a specimen of Tinospora sinensis of 6-9 cm girth and more than 50 m height has been recorded from Dakhnichi rai, Pune district (Upadhye et al., 1987). (Plate 3.6A). Many-a-times it represents pure formation of particular species e.g. Pongamia pinnata at Baneshwar grove, Pune district. These groves are virtual treasure-troves for naturalists as they support many plant species of rare occurrence in the particular area e.g. occurrence of Canarium strictum in Dhup-rahat, Pune district. (Plate 3.6B). Sacred groves are important reservoirs of biological diversity, can serve as a gene bank and source of wild relative of cultivated plants. Some important medicinal plants commonly occur in these groves (Vartak et al., 1987).

The villagers called these groves as the Gods
A - Tinospora sipensis - A giant climber at Dakhni sacred grove.

B - Canarium strictum - A rare medicinal plant from the area found only at Dhup-raham sacred grove.
dispensary. The plant wealth in a grove provides medicines to meet their day-to-day needs. For simple and usual disorders like cough and cold, fevers, skin diseases and animals bites, it provides curative plant wealth. Hence this particular vegetation is very important for medicinal plant wealth.

3.2 Tribals

From remote past tribals are living in groups in our country. With the advance of Aryans in India, many of the tribal communities became one with Aryans. Some groups fought for self respect and existence, they resorted to forests and hilly mountainous inaccessible places. As a community they live independent life and have fixed social traditions and culture. Though they belong to Hindu religion, their customs are rather different showing more affinity towards aboriginal nature Gods.

With ingresson of French and British rurals this situation changed. After independence, the constitution of India was incorporated with special provisions for the tribals. This resulted in gross progress within last few decades. In the early 20th Century, development programmes for tribals in Maharashtra began in Dhulia, Nasik and Thana districts. This work was initiated by devoted social workers and with this inspiration some social reformers tried to
undertake tribal welfare programme. In 1955-56 due to the riot of Warlies in Thane district and the resulting bloodshed, this community became wellknown. This made some awareness about tribal life in Maharashtra. Today tribes in Maharashtra are showing much progress due to improvement in communication facilities with civilized classes.

The population of tribals was 29.54 lakhs (1971 census) i.e. 6% of State's population (Gare, et al., 1982). The Tribes include Thakar (Ka and Ma), Mahadeo Koli, Koli-Malhar, Warli, Kokana and Katkari. (Map 3.7).

Table 3.1: Distribution of tribes in the districts

<table>
<thead>
<tr>
<th>Name of Community</th>
<th>Pune</th>
<th>Thane</th>
<th>Raigad</th>
<th>A' Nagar</th>
<th>Satara</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thakar Ka</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Thakar Ma</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
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<tr>
<td>Mahadeo Koli</td>
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<td>✓</td>
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<td>✓</td>
<td></td>
</tr>
<tr>
<td>Koli Malhar</td>
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<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>✓</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Kokana</td>
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<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Warli</td>
<td></td>
<td>✓</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

From the area under study maximum tribal communities are distributed in Thane district, while in Satara no tribal communities are observed.
Thakars are also known as Thakurs. They are located in Ahmadnagar, Raigad, Thane and Pune districts from area under study. The original habitat of this tribe was the western hilly parts of Nasik district. They have two main endogamous divisions namely Ka thakar and Ma thakar. Ma thakars claim themselves superior than Ka thakars. The marriage between members of these two groups is not permissible. They worship the host of deities, it includes Vaghya, Hirva, Dongardeo, Chede, Supali etc. They live in small hamlets situated near agricultural field in or near the fingers of the forests on plains or by sides of hills. Main occupation is agriculture and agricultural labour. Their economy is not sound. They supplement it by collection of fruits and roots. A cow is his Laxmi or Goddess of Wealth. The black magic is prevailing amongst them. The Thakar women seem to be more active. They are hard worker. They collect gum, fruits of Acacia catechu (Shikakai); Terminalia belerica and T. chebula (Hirda and Beheda) etc. They also sell seasonal fruits, mostly fruits of Carissa carandas (Karvanda). The Thakar women of Thane district collect it from the near forests and sell it on railway lines. In the Bhimashankar area collection of hirda and shikakai is a common practice. This tribe is observed to be maximum hardworker than all other tribes.
A - Thakar - A tribe distributed in Pune, Ahmadnagar, Thane and Raigad districts.

B - Thakar person ready for collection in forest.
in the area under study. They have traditional health system and a person called Bhagat or Vaidu is a medicinal person. In Murbad area, it is observed that some Vaidus cultivate plants of interest near their hut.

Koli - Mahadeo and Malhar (Plate 3.9)

Kolis are also common in the study area. Malhar Koli is seen only in Thane district near Palghar area. Mahadeo Kolis are common in the hilly regions of four districts i.e. Pune, Ahmadnagar, Raigad and Thane. Mahadeo Kolis are also known as Dongar Kolis. Those who are living on eastern slopes of Sahyadri are slowly giving up their tribal way of life. They are quite conscious about educational benefits and few of them reach graduation stage. This tribe is also subdivided into many groups and marriages between them are not permitted. They have their own agricultural lands. Eighty per cent of them do agriculture and cattle raising. Some of them are forest labourers. They are comparatively well settled. They are not very hard-workers as Thakars. In Bhimashankar and Bhandardara area, some of them collect flowers of Woodfordia fruticosa (Dhayatiche phul) and fruits of Embelia ribes (Vavdinga) if it has been assured in market. They mostly worship Hindu Gods but they too worship other forest Gods also. Bhagat is their medicinal person, however 'Hirva' is also an equally important figure looked upon as a family God who
A - Mahadeo-koli - a much advanced tribe from the area under study.

B - Malhar-koli in their traditional dress, restricted only in Thane district.
protects his worshippers from illness and accidents.

Amongst all tribal communities from the area under study, this tribe is most civilized and includes more educated people.

**Katkari (Plate 3.10)**

This is a Nomadic tribe, also known as Kathodies. This tribe is indigenous to Maharashtra and restricted to Thane, Raigad and to small extent to Pune district from the area under study. They are known as Kathodies because they use to extract 'Catachu' i.e. 'Kath' from Khair plant. Some of them manufacture charcoal. There are two divisions of the community namely Dhor Katkari and Son-Katkari. About 25% of them have their own lands but as these lands are situated in hilly areas they are not much fertile. They collect fuel wood and other forest products from forest and work as labourers. They worship forest Gods as Cheda, Bahiri, Khandoba, Vetal etc. This tribe is reported to be poorest amongst all tribes in our State.

**Kokana (Plate 3.10)**

The name Kokana derived from Konkan, the western coastal strip. This tribe also named as 'Kukni'. This is a primitive tribe and has resemblance with 'Warli' tribe. These people are considered of higher status by Thakars,
A - Katkari - Poorest tribe from the area under study.

B - Kokna - Primitive tribe restricted to coastal areas.
Warli, Mahadeo Koli and Katkari. They are better educated. They do agriculture and also collect fuel, honey from the forest. They also cut grass and sell it. They worship Kansarl, Dongarmauli, Gaodeo, Devi, Sun and Moon. Kokani women are very active, they make garlands, collect fishes from ponds and fruits from forest for sale. A Konkani ‘Soyarin’ or ‘Suin’ is also famous who takes care of newborn baby and nursing mother. She also gives household remedies for minor complaints and disorders especially of children.

Warli (Plate 3.11)

This tribe is chiefly found in north eastern parts of Thane district from the area under study. Warlis are originally 'Varlas' or uplanders. They are originally from 'Varla ghat' from northern part of Konkan. This tribe is further divided into groups like Murdas, Devars and Hiners. They worship Hindu Gods like Ram, Laxman, Hanuman and Shiva. They are living on agriculture and besides it cart plying is a recognised profession of the Warlis. Some of them are employed as forest labourers.

All these tribes are financially and educationally backward. They live with help of forests and proudly called themselves as 'King of jungles'. Forest areas have got tremendous impact on their life. They depend on the forest for their daily needs like food, fodder and other forest
A - Warli - mainly restricted to Thane district.
products for sale. They live in groups under headship of a person called 'Mukhiya'. Small 'pada' or 'Wadi' formed with 10-12 houses and such 10-12 pada or wadi forms a village. Generally it is named after chief clan or geographical location or plant name or animal name. Their huts are small and divided into two parts, one side for cattles and other pets while other for family living, mainly for cooking. Although they live in same area, all the tribes have their own different customs and religious believes. They were different type of ornaments and may be variety of it during different type of dances. Each tribe have their own type of dance and speciality in musical instruments. They too wear flowers and different feathers in their hair styles. They love different colours, generally dark colours.

Each community has its own belief e.g. Mahadeo Koli never use Waras (Heterophryga quadrilocularis) as fuel. The Thakars believe Bahava, Shivan and Pimpal (Fauhinia racemosa, Gmelina arborea and Ficus religiosa) as holy plants. Katkari, Kokna and Thakars too use 'Pandhrichichi kati' (Wood of Murraya exotica) to keep away evil spirits. They too have many folk-lories and stories about plants, their blessings, origins, importance and relation of forests and forest gods. Sometimes on the boundaries of their field they have statues of male and female called as 'Ali-Bap' which is believed to be in protection of foodgrains.
They mainly cultivate Wari, Nachni, Sava and Rice. Shifting cultivation is common practice. They cultivate Karale - Til on hilly slopes.

They collect almost every need from nearby forests. For hut building they use Karvi stalks or Nirgudi stalks and very rarely Bamboo. For thatching they mostly use different grasses. For storing foodgrains they prepare 'Kanagi' made from Bamboo or other stalks. They make fish-traps (Malai) and raincoats (Irale) of Bamboo and different types of leaves (Plate 3.12).

Forest types have an impact on the tribal life. Tribals depend for fuel and building material on forests. Although they cultivate foodgrains, the produce is not sufficient for the whole year. During starving period they depend upon forest-food as wild vegetables (Kaula, Barka and different leafy vegetables), roots (tubers of Dioscorias, Ceropagias i.e. Kharpuri, Goda Karand and also Pithana, Lavti and many other tubers); fruits like different pods, fruits of Delinia, Karvanda, Amba, Toran, Ambti and so many. It results in mal-nutrition.

Like incomplete diet the drinking water source is also not sufficient. During monsoon, people get abundant water while in summer water is impure and scanty. They have to fetch water from 3-10 km and that too with mud and other
Plate 3.12

A - Tribal catching fishes with a trap called 'Malai'

B - 'Irle' a raincoat made with plant materials.
impurities. Consumption of unhygienic drinking water results in different stomach disorders, infectious diseases and worms. As drinking water requirement is inadequate, naturally they cannot spare water for body cleanliness and cloths. This results in many skin diseases.

Hence, mal-nutrition and inadequate water resources result into many disorders. As they kept their pet animals inside their huts under one roof, it too adds in infectious diseases. A frequent applications of cow-dung on floor and wall of stalks, it too carries microbial flora which is unhygienic. There is no sanitary system, which also supports microbial, fungal and insects growth and it results in many disorders.

For keeping them healthy they depend on forests. For a village or a group, there is a medicinal person who gives mostly herbal medicines. This person brings herbal drugs from the near forests. They have their own traditional indigenous system. People believe that diseases are punishments given by the God for their ill-doings. They also believe that the 'Vaidu' or Bhagat have got powers and proper knowledge. They do offerings to the God and commit good behaviour. Generally Bhagat is a person doing these offerings and according to their belief, God tells wrongs and rights through Bhatat's voice. The Bhagat is a mediator who conveys God's message to people. These misteries are unbelievable
and do not have any proof or known base. In the Thakar community black magic is also prevailing, known as Muth-Marne.

It is observed in different field tours that the Thakar communities have a good knowledge of the forest drugs and they use it extensively. Mahadeo Kolis are more civilized and they prefer regular medicos doctors. Kokani and Katkari women have got the knowledge of household remedies for simple cold and cough, fevers, cuts and wounds, headache, etc. Treasure of effective herbal medicines are known to these tribals but to procure such information from illiterate tribal person is difficult. This flora utilized by tribals should be botanically identified for procuring genuine plant materials. A critical study of these sources has not been done from the area under study, therefore an attempt is made to observe the plants, collect them with their utility aspect of medicine and is presented in this thesis.