CHAPTER VII

SUMMARY AND CONCLUSIONS
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The thesis contains an investigation on medicinal plants in forests of Chhindwara district with special reference to Ethnobotanical aspects. It is the outcome of extensive field survey from 1989 to 1991 in the tribal areas of the district. The observations have been grouped into six chapters followed by summary, references and appendices.

The first chapter of the thesis deals with the introductory theme of the thesis, the rational for taking up the study, its scope and objectives. It also describes the significance of Ethnobotany and its relation with investigations on medicinal plants in the tribal areas.

The next chapter highlights the detailed ethnobotanical work done by ethnobotanists in India and abroad. The progress of ethnobotanical research in India is chronologically given and divided arbitrarily. The literature indicates Ethnobotany of specific geographic regions; ethnically distinct primitive or interesting human societies; specific plant groups, genera and families; medico-ethnobotany with special reference to certain diseases, veterinary medicine; wild edible plants, fibre, dye, oil yielding plants; worshipped plants; ethnoecological and ethnopharmacological aspects along with the names of universities, research centres and laboratories where related work is being carried out in India.

Chhindwara is one of the 45 district of Madhya Pradesh. It is flanked by Satpura plateau, which has an area of 11,824 sq
km. There are 7 tehsils and about 991 villages and total population of 15.63 lakhs. Density of population is 132 per sq km. There are 948 females to every 1000 males. It has 33.38 per cent of scheduled tribe population of which 98 per cent is concentrated in rural areas. The important tribes of the district are Gond (67%), Korku (5%), Dharia (4%) and Pradhan (3%). The climate of the district is salubrious. The highest temperature reaches 41°C and the lowest about 5°C. The average annual rainfall is 831.00 mm. Chhindwara possess a good floral and faunal variation. The district has 36.39 per cent of total forest area which is about 4338.37 sq km within which 1707.6 sq km is reserved, 2616.33 sq km is protected and 14.44 sq km is unclassed. Tropical dry deciduous teak forests and tropical dry mixed deciduous forests are the common forest type present in the district. The detailed account of floral and faunal composition and prevailing biotic factors are described in the Chapter III.

A detailed observation has been made on tribal people and their culture including their historical background, origin, affinities of the tribes, language, religion, occupation, dress and ornaments. Studies in regard to their health status and attitude towards disease, their diagnosis and treatment have also been conducted. It has been noticed that due to scarcity of medicinal plants in tribal localities, the local inhabiting tribes are gradually inclined to use allopathic system of medicine i.e. going to aculturated in pill-culture.
Chapter IV gives the detailed methods applied in the field, collection and preservation of plant species in the laboratory and laboratory techniques to make herbarium and museum specimens are described. Details about the field work, informants, approach and rapport with tribals, techniques of procuring information, proforma of field, study areas and surveyed places are described.

The Vth Chapter appertains to the detailed ethnobotanical account of plant species collected from Chhindwara plant species have been arranged in alphabetic order according to their botanical names. Every species is depicted with a short morphological description, habitat, occurrence, flowering and fruiting season, collection number and locality. The ethnobotanical claims have been discussed. Plant species which are used for medicinal purposes are given with their proper application method. The plant species which are already mentioned in literature from study sites are written as 'Reference' in the end of description of each available species.

In all, 225 plant species of 186 genera and 90 families of ethnobotanically important plants in Chhindwara district were collected. Dicot represent 179 species (79.55%) belonging to 147 genera and 67 families (74.44%) whereas monocot represent 33 species (14.66%) belongs to 27 genera of 11 families (12.22%) and 13 fern species (5.77%) of 12 pteridophite families (13.33%).

It was observed that 13 families are ethnobotanically dominant, 6 are co-dominant and 29 families were represented only by single genus and single species have ethnobotanical importance.
The present study mainly concentrates on medicinal plants. It was estimated that 195 plant species (86.66%) having medicinal value. About 75 different human ailments are cured by the tribals of Chhindwara by local medicinal plants. It was observed that treatment of abortion, antifertility, menstrual disorders (amenorrhoea, dismenorrhoea and menorrhagia), snake bite, scorpion sting, asthma, cuts and wound, jaundice, bone fracture, rheumatism and gout, skin diseases, leucorrhoea, piles, epilepsy, impotency, leprosy, dysentery and diarrhoea, fever, goitre, toothache and venereal diseases are successfully cured by indigenous jungle plants from their natural surroundings.

The application procedure of medicinal herbs varied from root to leaves, stem, bark (root and stem), flowers, fruits, seed and gums etc. It was observed that the same plant is used for a number of disease in different ways, whereas in some cases the same ailments is cured by different plant species. The most common method of preparing medicines is to make an infusion by boiling the fresh or dried plants, as poultic or paste.

There are 330 folk medicinal claims reported from study site out of that 218 medicinal claims is first time reported in the present study which was cross-checked from available published literature and have been given in tabulate form in the remarks column of the Table 3 of VI Chapter, which are the main findings of the thesis.
Dioscorea bulbifera, Alternathera sessilis, Bauhinia vahlii, Borreria articulata, Boerhaavia diffusa, Bombax cieba, Cassia fistula, Coccinia esculenta, Dioscorea puber, Dioscorea pentaphylla, Madhuca longifolia, Ophthoglossum reticulatum, Dendrocalamus strictus, Rhus parviflora, Ficus semicordata, Nyctanthes arbor-tristis are the wild plants reported for their vegetable uses. The present study shows that about 50 plant species (22.22%) used as food and drink, which are not reported earlier from the area. It was observed that plants used for a variety of ethnobotanical purposes by the people of the area i.e. in festival and religious belief 7 species (3.11%), ethnocrafts 22 species (9.77%); condiment, oil and gums 12 species (5.33%); fish poisoning 7 species (3.11%); shelter 10 species (4.44%); magical belief 4 species (1.77%) and other miscellaneous purposes 33 species (14.66%) is used.

Certain localities of the district like Botalkachar, Patalkot, Tamia valley, Sangakhera and the area adjoining to Pachmarhi are some of the natural store house of wild medicinal plants, which are richly endowed with a wide variety of plants of medicinal value representing a great natural resource. It was estimated that about 20 medicinal herbs are collected for trade purposes from study area. Presently medicinal and many aromatic plants are being exploited by petty contractors through their labourers or by native tribals and other forest dwellers. Those collected plant species are supplied to many herbal drug companies and government ayurvedic centres. Plant species like Justica adhatoda, Gloriosa superba, Asparagus racemosus, Swertia chirata, Plumbago zeylanica,
Catharanthus roseus, Spilanthes paniculata, Urginea indica, Rauvolfia serpentina, Abutilon indicum, Curcuma aromatic and Abrus precatorius have been found to be most suitable species for bulk cultivation purpose. They are fast growing and completed their life cycle in a short period with the application of simple organic manure and also have good market value. Thus the growers can get the product in short time with good return.

It was also realized after total study that Thalictrum foliolosum, Pimpinella wallichiana, Plumbago zeylanica, Urginea indica, Lavandula bipinnata, Gloriosa superba, Swertia chirata are the species which are promising medicinal plants and are disappearing at a very fast rate from their natural habitat. They are almost threatened for their natural regeneration and survival. However, these plants were very common in recent past as reported by local inhabiting tribals. It is therefore, necessary to take immediate steps to conserve these species in-situ or by propagation with ex-situ technique. It is suggested that the forest department, voluntary agencies and even farmers should grow some of these species in fields so that the danger of their extinction is checked. Some more pharmaceutical industries of the private or public sector should be attracted by the government agencies to invest more money for cultivating the threatened but ethnobotanically useful plants.