CHAPTER - I

INTRODUCTION
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1.1 Ethnobotany - its Scope

The term 'Ethno-botany' denotes the cultural links of man with the plant life in its natural environment. The word Ethnobotany is derived from two words, 'ethnic', means races and 'botany' means the knowledge of plants. The term was first coined to denote the study of plants used by the primitive and aboriginal people. Later, the term came to include the relationship between primitive societies and their plants surrounding in a wider sense. Today the entire realm of useful relationships between plants and human is included in this term. The most complete modern definition to ethnobotany is the study of direct inter-relationships between 'human and plants' (Jones, 1941). According to Schultes (1962), 'ethnobotany is the study of the relationship which exists between people of primitive societies and their plant environment'. Mittermeir and Plotkin (1981) described that 'ethnobotany is basically an amalgam of interdisciplinary studies of man's interactions with plants, particularly his utilization of plant kingdom, and its draws on a variety of fields including botany, anthropology, biochemistry, medicine and agricultural sciences'.

According to Rao (1981a), 'ethnobotany is a multidisciplinary study involving the relationship between plants and the aboriginal people, some knowledge of anthropology of the regions and a fair familiarity with flora and vegetation of the region. Jain (1963) described ethnobotany as the total natural and traditional relationships and interactions between man and his surrounding plant wealth.'
The archaeological evidences regarding plant cultivation and use of any plant product by early man for food, house building etc. and references to herbal medicines in ancient scriptures reveal a very long history of ethnobotany. The term 'Ethnobotany' was applied less than a century ago by a botanist of Pennsylvania University Jhon W. Harshburger (1895) for the study of the relationships which exist between people of primitive societies and their plant environment.

Mans' life has always been intertwinely connected with plants around him. There is practically no human activity in which plants donot play a role. Ethnobotany covers the whole gamut of man's activity of farming, hunting, home and social life, food habits, religious beliefs and ceremonies, traditional medicines, entertainments and so on - in all of which can be discussed a strong presence of sylvan surroundings. Ethnobotany must have been the first knowledge which the prehistoric man had acquired by sheer necessity, intuition, keen observation and experimentation.

On the basis of interrelationship between man and plants further branches of this science were attempted by some scientists. Among them, Jain (1989) categorised all the cultural (or spiritual) relations and then placed in one or more of the following four categories.

i. Relationships useful to man and plant.

ii. Relationships useful to man, harmful to plants.

iii. Relationships useful to plants, harmful to man.

iv. Relationships harmful both to man and plants.
The importance, scope and implications of ethnobotany have been expanding throughout the world at a very fast rate. Recent development and researches on ethnobotany have today established linkages between many other special areas like anthropology, medicine, sociology and culture, forestry, agriculture, ecology and conservation etc. (Fig.1.1). Such studies have shown their relevance in search for new herbal drugs, useful germplasm, new supplementary and emergency foods and tools in economic development and conservation of natural resources and heritage.

1.2 Ethnobotany - its Relation to Flora

The importance of ethnobotanical work in the study of the flora in general and in the search for new medicines, edible wild plants, poisonous plants and noxious weeds in specific, has been explained by Schultes (1962) and Jain (1964a). In general flora usually have detailed morphological description of the families, genera and species of plants of a given locality with occasional mention of local names and rarely any indication about uses of plants. The principal object of flora is to sum-up all the available plants and without any detail uses of plants. An ethnobotanical approach to a flora is that it adds to our existing knowledge on plants such as food, medicine, house building, fine arts, worships, socio-religious and cultural aspects of human life. A medicinal flora may be a pure compilation, and medicinally useful species can be listed by two or three collection trips or from an other flora and use can be noted from literature. But ethnobotanical approach involves actual
Fig. 1: Diagrammatic representation of the relationship between ethnobotany, economic botany, agriculture, forestry and horticulture.
field work in terms of personal observation of the ethnobotanist. Apart from collection of plants and recording of data on it would be desirable to have careful observation on the life-style of tribals in use of plants in his day to day activities, the type of huts and the way the hut construction leads one to conclude about the inter-relationship between tribals and plants.

1.3 Relevance of the Present Study

Ethnobotanical research or investigations has been necessitated due to rapid depletion of natural resources on one hand and the traditional ethnic culture on the other hand. The modern technological advancement in all aspect of life has brought these changes and have contributed to a rapid disappearance of natural resources. Since ethnobotanical study reveals the relationship between aboriginals and their surrounding plants it has immense importance in social, cultural and economical aspects. The symbiotic relation between tribals and forest in some ecoclimatic conditions is very unique. The interdependence between plants and tribals can only be observed by a keen interested ethnobotanist.

India is very rich in two main components of ethnobotanical wealth i.e. diversified tribal population and vegetation. Here, many living group of people still more or less isolated from influence of the modern world, and who continue to live in close association and vital dependence on their ambient vegetation, provide scientist with unparalleled opportunities for profound research. It supports a most varied and rich flora from the distinct of deserts to tropical
MAP OF MADHYA PRADESH SHOWING TRIBALS AREAS
FIG. 12. Scheduled tribe communities having largest population in Madhya Pradesh.
rain forests and an extraordinary diversity of altitudes from sea level to the highest mountains in the world and perhaps of even deeper significance this region possesses in the 'Vedas', 'Puranas' and a variety of other documents, and ethno-botanical continuum. India's tribal population, estimated at 54 million, is almost equal to the total population of United Kingdom. They form about 7.76 per cent of the country's total population. India has the second largest tribal population in the world, only next to Africa. There are more than 630 tribes subdivided into groups spread throughout the length and breadth of the country. The tribes differ considerably from one another in race, language and culture; in their myths and customs and their longings and aspirations (Ghosh, 1990).

Madhya Pradesh being the heart land of the country has maximum concentration of tribals and rich forests (Fig.1.2 & Map-2). Every fifth tribal in the country lives in Madhya Pradesh (Chakravarti and Prasad, 1989). More than two-third districts of the state are known for tribals and forests living symbiotically since time immemorial Chhindwara happens to be such a district having a large area of natural forests and natural forest wealth. Some of the areas of Chhindwara are said to be 'store-house' of important flora of great ethno-botanical importance (Saxena and Shukla, 1971, Maheeshwari and Dwivedi, 1988). Some of these researches have remained concentrated only in a few known pockets of the district (Patalkot and adjoining areas).

The present study covers the entire district for ethno-botanical study. The people of this region still retain their originalities of traditional culture. The perusal of available literature
shows that ethnobotanical investigation as well as the medicinal and floristic studies in Chhindwara district are still lacking.

1.4 Aims and objectives of the study

The aims of this study are to know the laws and ways of nature for making the optimum sustainable use of the plant resources gifted to man by nature and to record new and less known uses of plants from local tribals.

Plants use and plant human interrelationships should be understood from history, physical and social environments and by inherent qualities of the plants themselves. The objective of ethnobotanical study actually is a sort of a 'text', whose meaning is practically derived from natural, social and cultural contexts in which it existed. The basic objectives of ethnobotanical research are collection of solid data about plants in relations to people and environments of a place (Prasad et al., 1991). Tribals and other forest dwellers depend on wild plants growing in their surroundings, for supplementing their food, shelter, health-care and culture. Different plant parts are used by tribals and other forest dwellers. These include roots, tubers, rhizomes, leaves and shoots, ripe and unripe fruits, flowers and inflorescence.

These plant parts are used as food, fibres, agricultural implements, dyes and chemicals, basket making, as incense and perfume, flavour and fragrance, tooth brushes, bratting, colouring, decoration, ornaments, combs and beads, musical instruments, alcoholic drinks, as medicine and for a number of other uses.
Of the 500,000 species in the world flora, only a fraction has been investigated by biochemists (Schuites, 1982). Biological and phyto-chemical screening of plants is an expensive and time consuming process (Farnsworth, 1966). By studying ethnobotanical data it is possible to short list the important ones which may require immediate screening and may further step for the protection and propagation.

Folklore, ethnobotanical informations and findings on medicinal use of plants by the tribals have great importance to phytochemists for selecting the plants for biological screening. Catharanthus roseus (G.) Don. which is a native to the West Indies, is the source of antitumor alkaloids, Vinca-leuco-blastine and vincristine which have achieved up to 99 per cent success in treating acute lymphocytic leukemia and 80 per cent remission in treating hopkins disease (Myers, 1979). As many as 80 alkaloids have been extracted from Catharanthus and six of these have been found to have antitumor activity. It is interesting that this plant was first investigated because of its use by local people as an oral hypoglycemic agent. (Cordell and Fransworth, 1976). The recent re-discovery of the remarkable medicinal properties of certain plants like species of Rauvolfia, Ephedra, Panax, Podophyllum, Comiphora and Dioscorea gave new impetus to ethnobotany (Jain, 1983). Chondrodendron tomentosum is a south American jungle vine contains D-tubocurarine, is widely used as muscle relaxant in surgery was originally used by the tribals as a hunting poison. Chemists have so far been unable to produce it synthetically in a form which has all the characteristics of the natural product. Plotting (1981) therefore suggested continued
reliance on extraction of the drug from wild plants which become rarer each year.

A very few of the world's flora have been utilized as food-source on large scale of the several thousand species which are known to be edible, only 50 have become important to enter plant species which produce 90 per cent of our food - 20 species stand between us and starvation. The country like India where periodic flood, drought and famine or other natural calamities are common, ethnobotanical data regarding wild supplementary food is of great socio-economic importance.

The present work involved an extensive field collection of plant specimen and museum material which contribute to enrich the herbaria and musea. As stated earlier, the flora of Chhindwara district is not yet written and hence the collected herbarium specimen will also contribute to the preparation of a flora of this region.