Chapter II

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The medicinal plants are an important resources for all major systems of medicine/health care, nutraceuticals and cosmetics. The history of medicinal plants in India goes back to vedic period roughly between 3500 B.C. and 800 B.C. During this period the knowledge of herbal drugs was mostly concentrated with ancient Rishis and Seers. The earliest references to medicinal plants are found in Rigveda and Atharva-Veda dating back to the fourth millennium B.C. Charak Samhita (1500BC) is the first recorded treatise, fully devoted to concepts and practice of Ayurveda. It listed 341 plants and plant products for use in medicine ‘Sushruta Samhita’ (2500 BC) has special emphasis on surgery. ‘Sushruta’ recorded 760 herbs in 7 distinct sets based on their common properties. It describes 395 medicinal plants; 57 drugs of animal origin, 64 minerals and metals as therapeutic agents. ‘Sushruta’ lived and practiced surgery in Varanasi (Pushpangadan 1996). The work on ‘Ayurvedic medicine’ continued by Nagarjuna in Buddhist period around 200 B.C. to 642 A.D.

During the period of ‘Ashoka The Great’ knowledge of medicinal properties of plants were increased. Buddhists added many new insights to it and they took it alongwith their ‘Bhikhus, to many different countries. This, Ayurveda became the basic of the healing tradition of Sri Lanka, Burma, Tibet and other Buddhist lands and influenced Chinese and Greek medicines. The medicinal plants were used in China since 3000 B.C. and it contains 365 drugs. In the olden times the medicinal plants were recorded in the form of signs, symbols, carvings on clay tablets and stones. One of the oldest hieroglyphic inscription found at the tomb of the Egyptian court physician who lived about 4500 years ago reveals the use of senna leaves (Cassia

During 13th century, the literature on medicines was called “Herbals”. “Bent-tsaio” was on early Chinese herbal of approximately 1250 A.D. In 16th and 17th century some of the important publications on medicinal plants were appeared Viz. “De Historia Stirpium” by Fuchs (1542) and “A new herball” by Turner (1551) gave a true scientific accounts of medicinal plants (Wallis, 1967). Chinese naturalists Lishin-Chin compiled several volumes of “Pen-tsaio Kangmu” appeared in 1590 (Schultes, 1960 and Aikman, 1974). The important publications like Os colloquios (Garcia de orta, 1563) Hortus malabaricus (Van Rheede, 1678-1703), Hortus benghalensis (Roxburgh, 1814), Flora Indica (Roxburgh, 1832) also contributed to the knowledge of medicinal plants: A book “Herbarium Amboinense” written by Rumphius reports the use of “snake root” plant Rauwolfia serpentina (L.). Benth ex Kurz by the natives of Bengal and Malabar in India (Jain, 1986).

The over all work on folk medicinal plants in 20th century revolutionised the scientific world and opened a new vistas in the traditional systems of medicine. The comprehensive works on exploration of resources of medicinal plants were compiled by Nadkarni (1908), Desai (1927), Kirtikar and Basu (1918), Bodding (1925) who worked on the medicinal practices of tribals of Bihar and Bengal. The plant scientists took keen interest in unraveling the traditional botanical knowledge available with the ethnic people into technical scientific language. Majumdar (1927), published Vanaspati plants and plant life as in Indian treaties and traditions.” Biswas (1934) studied the concept of disease among the primitive people. The ethnographers and
anthropologists Grigson (1949) and Elwin (1947) have mentioned about the medical practices among the mora Gond tribes of Bastar in Madhya Pradesh. A review of literature reveals that the researches on medicinal plants were undertaken mainly on two lines. On one hand, more stress was given on exploration of resources for enhancement of traditional indigenous systems of medicine and on the other hand, many scientists were involved in deciphering the folk medicinal plants. The CSIR publications under the title “Wealth of India-raw materials” brought to light number of medicinal plants with their chemical constituents. Santapau (1953) brought “The flora of Khandala and Western ghats of India”. Verma (1955) reported some of the important indigenous herbs for the treatment of several diseases. Dastur (1951) wrote “Medicinal plants of India and Pakistan”.

The scientific study and the use of folk medicinal plants with reference to the ethnic people gave birth to an inter-disciplinary science the “Ethno-medico-botany”, a branch of “Ethnobotany, a term first coined by Harshberger (1895). Ethnobotany is a holistic study which involves the reciprocal and dynamic aspect of the interaction of adivasi people with plants. S.K. Jain (1990, 1991) made a systematic approach towards the knowledge of folklore medicines in India and he deserves to be known as father of Indian ethnobotany. His publications during 1963-1967 gives an ample information of medical practices and uses of medicinal plants against various diseases. He worked on the tribals of Madhya Pradesh, Assam and Bihar. He emphasized the great potential of researches in the field of folklore medicines and indigenous systems of health care. He has also given the impetus to take up the researches into various disciplines like, magico-religious beliefs, ethno-veterinary plants, cultural practices in relation to plants, sacred groves, phytochemical analysis; conservation and propagation of medicinal plants. Basham (1977) opined that in
ancient India there were traditional doctors who used the herbs for treatments as well as witch doctors, who considered that the diseases are caused by evil spirits. Even today, we come across such practices in the remote villages of India. World Health Organization held an international meet in 1977, for the promotion and development of traditional medicine. Razzaq in this meet stressed the need of publication of rare manuscripts of traditional medicines. Thompson (1978) published “Healing plants—a modern herbal.” Rai and Gupta (1980) brought out the scientific synopsis of “Charak Samhita” and “Sushruta Samhita.” Kurup (1977) and Mukesh (1980) wrote on the Indian indigenous system of medicine.

Kutumbiah (1962) in his publication “Ancient Indian Medicine” studied the customs, habits and mode of living of the aboriginal tribes in India and their medical practices. Aiman (1961) worked on the indigenous herbal anti-diabetic substances. Chopra et al. (1956) made a significant contribution to the knowledge of Indian medicinal plants by publishing “Glossary of Indian Medicinal plants.” It was supplemented by additional information on chemical ingredients and uses in 1969.

Tiwari and Padhye worked on the tribals of Assam and Arunachal Pradesh and brought to light the medicinal plants for the treatment of fever, jaundice, snakebite, bone fracture, malaria etc. Vartak and Gadgil (1980), emphasized the importance of ethnobotanical studies and recommended its inclusion in curricula of botanical sciences. Vartak and Mandavgate (1981) reported the survey of medicinal plants from Karmala forest area of Kolaba district. Subudhi and Chaudhary (1985) enumerated the medicinal properties of 64 angiospermic taxa used by the people of Phulbani district, Orissa. Upadhye et al. (1986) recorded the medicinal plants from southwestern part of Kolhapur district. Oomachan and Masih (1987) enumerated 71 species of medicinal plants during exploration work of Bastar, Bilaspur, Jabalpur,

Kharkongor and Joseph (1990) contributed on the folklore medicobotany of Khasi and Jaintia tribes of Meghalaya. They enumerated about 81 genera, along with their therapeutic uses. Roychoudhary et al. (1990) also enumerated the list of medicinal plants. Trivedi (1990) worked on the plants of Cucurbitaceae family and reported their medicinal significance. Chatterjee (1990) carried out the phytochemical screening of the lesser known medicinal plants used by Gorkhas of Darjeeling hills. They recorded the presence of saponins, flavonoids, alkaloids, tannins etc. from Acorus calamus L., Astilbe rivularis, Asparagus reacemosus Willd., Cissampelos pareira L., Gloriosa superba L. Jain et al. (1990) reported 32 plants used by ‘Ho’ tribe in Bihar. Tarafdar et al. (1990), also reported less known medicinal plants among the tribals of Hazaribagh district of Bihar. A close perusal of literature reveals
that in the last two decades researches on various aspects of ethnobotany are being undertaken throughout the country.

contact therapy as one of the common practices in Munda tribes of Chhotanagpur (Bihar) for curing various ailments particularly in children and women. Anandkumar (1996) dealt with the Indravati tiger reserve, Bastar (M.P.) and provided medicinal uses of 27 species. Samwatsar and Diwanji (1996) worked on the Jhabua adivasis and enumerated species of medicinal plants used amongst Bhil and Bhilala. Sinha (1996) brought out a comprehensive account of ethnobiological contributions and pointed out that WHO surveyed the uses of Herbal medicines and reported that herbal treatment of diseases are increasing day by day even in the developed countries. Maheshwari (1996) has undertaken ethnobotanical survey and documented ethnobotanical information among primitive tribal groups of Madhya Pradesh. He also corroborated phytochemical screening and biological screening with reported ethnomedicinal uses of plants Viz. Euphorbia fusiformis, Adina Cordifolia (Roxb.) Hook. F., Hyctanthes arboristris L. He expressed the need of expanding field research and documentation to ensure that the traditional knowledge of tribal people should not be lost for all time.

The aborigines of India are known as tribes. The Indian sub-continent is inhabited by over 53 million tribal people belonging to over 550 tribal communities of 227 ethnic groups (Anonymous, 1994) and it constitutes about 7.7% of India's population. The most important aspect of these tribal people is that they worship nature. They love forests thereby conserving flora and fauna of the region. The sacred groves are the reservoir of ethnobotanical conservation and also last refuge of endangered plant species. Saini (1996) reported less known uses of 254 plants among Tharus of Basti district of U.P. Khanna et al. (1996) gave an account of 27 species of folk medicinal plants from Mirzapur district (U.P.). Rana and Datt (1997) reported ethnobotanical uses of 39 plant species of the Jaunsari tribes of Chakrata Tehsil in the Dehradun District (U.P.). El.Kamali and El.Khalifa (1997) described the plants form

Mitra (1999) reported the works of Hynayana and Mahayana schools of Buddhism and enumerated nearly 350 medicinal plants and classified them into various groups alongwith their component parts on the pattern of charak samhita. Idu et al. (1999) reports the use of fleshy calyx of Hibiscus sabdariffa L. for hypertension is noteworthy. Rao and Reddy (1999) suggest the paste of leaves of Pupalia lappacea (L.) Juss. of Amranthaceae with edible oil (Sesamum oil) can be an effective treatment for bone fracture in human beings as well as in cattle. The work of Natarajan and Paulsen (2000); Bhatt and Mitaliya (2000); Britto et al. (2000); Sen et al. (2000) made significant contribution to the exploration of medicinal herbs.

Ahmad (2001) enumerated 30 angiospermic plants commonly used by Khasis, for their various ailments. Anil Kumar et al. (2001) explored the Chhota Nagpur area in Bihar and enumerated 25 species of ethnomedicinal plants. Sharma and Kumar (2001) provided the database of plants used in Ayurvedic system of medicine particularly cancer disease.

In Vidarbha, Graham (1911) listed wild plants of Nagpur and Telankhedhi area and discussed about their medicinal properties. Ugemuge (1986) published the flora of Nagpur district, wherein he incorporated useful information about some medicinal plants. Badhe and Sharma (1982) surveyed the Chikaldara, Tarubandha and Dhulghat forest ranges of Western Satpura mountains and reported health statistical data and folklores from tribal pockets of the region. They also observed some of the


fatty acids, alcohols from \textit{Calotropis procera}. Recently Tayde \textit{et al.} (2006) successfully isolated lignin derivatives from roots of \textit{Argemone mexicana}.