

# Foundations of Ethnobotany

21<sup>st</sup> Century Perspective



**Sudhir Chandra**

*Edited by*

**Ashok K. Jain**



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# Foreword

The term 'Ethnobotany' was coined only about 120 years ago meaning relationship of man with botany that is plants. But actually man-plant relationship started with the birth of human race on this earth. In the present book Prof. Sudhir Chandra has rightly not confined to review foundations of ethnobotany either to the time of coinage of the term Ethnobotany or to the Indian region. He has touched all early sources of information in Archaeological, Historical or other sources mentioning some fragments of man-plant relationship from food gatherers through domestication to origin of agriculture in early civilization of many continents.

Development of agriculture during Indus, and Harrappan civilization is dealt with some detail particularly about crops like millets, cotton, in African continent, rice in Yunnan and China, potato in America, sugarcane in Indian sub-continent. Archaeological and anthropological evidences are also marginally dealt. Origin of agriculture between 5000-1200 B.C. giving concise account of agriculture in different regions is given. History of agriculture in India is given in some detail with particular reference to crops like wheat, cotton, spices, muskmelon, hemp, sugarcane, rice, barley, millets, ragi.

The author has attempted to relate progress in agriculture in major early civilization of this region such as Indus valley, and Harappan, bringing these historical development to Vedic and Historic period.

Development of any area of knowledge in any civilization can not be meaningfully compared with other civilization because several factors particularly political stability will and resources for technological developments can greatly vary from region to region.

The author has also discussed the vague use of the words tribe and tribal in ethnobotanical writings; in India these terms can rightly be used only for communities listed as tribes in a Schedule of our constitution AND NOT for all rural folk or forest dwellers.

References to early civilization is a useful suggestion to young research workers about the vast global expanse of this discipline.

Some points which need closer attention of researcher in Ethno botany, discussed in this book are (a) equal emphasis on material (like medicine, food, tools) and cultural (like association of plants in art, customs, festivals and faith), attention on returning benefits of gains from indigenous knowledge, and due protection of patent rights.

On the whole the book will give an overview of the several dimensions which student of this subject should keep in mind.

Undoubtedly Prof. Sudhir Chandra is the only archivist in India who could have even attempted to trace foundations of this inter disciplinary subject and if not written now, such a book would perhaps never have been written in our country.

The book should be useful not only for scholars of Ethnobotany or all plant sciences in general but also for historians of science in all parts of the world.

Lucknow

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## Editor's Note

The success of aboriginal, primitive, tribal, or rural societies in understanding plant and properties of their underground and aerial parts is simply a result of long and intimate association with the flora and their dependence on them. Subsequently, this concrete or material relationship developed into abstract one, where various faiths, taboos, totems, worships etc got associated with plants. The aboriginal or early man throughout the world have developed their own cultures, customs, religious rites, taboos, legends, myths, foods and medicinal practices. It also appears pertinent to note erosive forces affecting their knowledge systems and even plant wealth particularly in modern times.

In the beginning, the botanists and the anthropologists did not always collaborate in their work. The botanists focused on identifying species and their uses, instead of concentrating upon how plants fit into people's lives. On the other hand anthropologists were interested in the cultural aspects of plants and treated other scientific aspects marginally. In the early 20th century, botanists and anthropologists better collaborated and the collection of reliable, detailed cross-disciplinary data began.

Beginning in the 20th century, the field of ethnobotany experienced a shift from the raw compilation of data to a greater methodological and conceptual reorientation. This is also the beginning of academic ethnobotany. Ideas on evolution and development of various civilizations in various parts of the world were given along with the origin and migration of plants specially cultivated crops.

In the present book the author has focused on some aspects of cultivated plants in human history with special emphasis on India. A huge information has been brought together on ancient civilizations of the world and close association of plants with societies. Untiring efforts of the author have tried to convince that there is need to look beyond the concept which can be inferred from Harshberger's Ethnobotany. Those were the ancient people of various societies of the world who actually contributed for the evolution of ethnobotany. Now time has come to repay our debt to aboriginal.

The book starts with academic contributions of J. W. Harshberger and R.I. Ford, given at the end of Part-I as appendices. Centers of origin of various cultivated crop plants have been critically reported with all evidences. Part-II of the book comprises information on Neolithic revolution with domestication of plants animals in some important parts of the world. Part-III mainly focuses on history of agriculture in Indian subcontinent. Author has given a beautiful account on chronology of agricultural technology development in India with emphasis on Indus Valley Civilization and Neolithic Revolution. The last part of the book provides a brief account on various civilizations during bronze and iron ages and medieval to early modern civilizations in some parts of the world specially in Asia. Migratory routes of

various societies have been dealt with reasonable evidences. The book doesn't contain any index but a detailed list of contents almost serves its purpose.

This handsomely produced book deserves to be widely read, both for its specific observations about the development of important civilizations of the world and origin, migration and domestication of agriculture. In my opinion the book comprises rare and unique information (which is not easily available) on various aspects of ethnobotany. I am thankful to Mr. Musadiq Hussain Bhat for assisting me in computer work.

All such historical reviews are based usually on fragmentary, palaeobotanical, archaeological and such other early evidences and their interpretations can vary according to the perceptions of the author.

**Prof. Ashok K. Jain**

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## Preface

The first lecture on the 'Foundations of Ethno botany' was delivered by the author at the III Training Course in Ethnobotany, held at Lucknow in March 1990 and organized by the Society of Ethnobotanists (Director: Dr S.K. Jain, FNA). It was published in the Journal of *Ethnobotany* in 3 parts (Vol.2,3,4, 1990-1992) and also reprinted as a book by Deep Publications, Delhi. The present lecture owes its origin to Prof. Ashok K. Jain, Institute of Ethnobiology, Gwalior to revisit the topic and reassess my thoughts from the perspective of 21<sup>st</sup> century needs. My earlier lecture (1999) was influenced by my fascination with the Harshberger's *Ethnobotany* and Richard I. Ford's article "*Ethnobotany: Historical Diversity and Synthesis*, pp. 27-49 (in Richard I. Ford, Michael F. Brown, Mary Hodge and William L Merrill eds, *The Nature and Status of Ethnobotany*. Anthropological Papers. Museum of Anthropology, University of Michigan No. 67, Ann Arbor, Michigan 1978. Therefore, my presentation focussed on Geographical Exploration of the World by land and sea and today I feel that Foundations of Ethnobotany need to be reanalysed from Twenty first century's perspective. The Science of Ethnobotany has varied facets like medicinal plants; plants used for food, fibre, fuel, fodder, fruits; oil plants; plants used in religious and social practices; plants in fables, stories, poems, traditions and ceremonies, folklore, sculpture, art; anthropology, archaeology. Human life is intimately connected with plants from birth to death, and also concerned with pre-birth and post-death traditions etc. Its whole coverage requires several large volumes beyond the scope of present writeup. I have focussed only on some aspects of cultivated plants in human history with special emphasis on India.

As the Ethnobotanical knowledge has accumulated, the ethnobotanical living has deteriorated in our life. Indian Ethnobotany need to focus on correlation of Anthropology and Economic botany. We need to look beyond Harshberger's Ethnobotany. Time has come to repay our debt to tribals. We need to provide a firm foundation for our National Institute of Ethnobotany.

A few words about future ethnobotanical workers or who make botanical excursions are necessary. Field work on ethnobiology particularly in forest areas take research workers to places where even the primary health services/ facilities are not available. Incidentally, India lost some very active ethnobotanist/ botanist during their field trips. Dr. Ved Prakash, Scientist from Central Drug Research Institute, Lucknow died due to an infection caught in during field work. Another active scientist from Botanical Survey of India, North Circle, Dehradun Dr. H.C. Pande died due to dengue fever after returning from a botanical tour. Field workers must carry some life saving drugs during their field trips. Also the availability of antidotes for snake bite and other such injuries must be ensured.

Another applied aspect of ethnobotanical knowledge which is disappearing from our homes is the gradual loss of knowledge about a variety of plant products

(spices and other edible parts) and indigenous equipments and utensils which our ancestors used to apply for preparation of drugs as home remedies for the treatment of several diseases. Now several such traditional items like a jute bag, *kullarh*, *Surai*, *Matka*, *silbatta*, *ukhal*, *pattal*, *sutli*, *rassi* (from *Nariyal* fibres), baskets etc. have been replaced by plastic items. In ancient times our family kitchens used to be a home pharmacy for day to day ailments. Several such items included as 'grandma's remedies were *Heeng*, *Ajwain*, *Saunf*, *Haldi*, *Kaali mirch*, *pippali* (*Piper longum*), *Bari Elaichi*, *Saunth*, *Adrak*, *Jaiphal*, *Javitri*, *Methi* which are now disappearing from Indian kitchens. Due to lack of this knowledge, now sick people are rushing to modern medical practitioners and paying a huge amount of money. Such practices of home remedies can be revived only by inculcating ethnobotanical knowledge among families.

Due to several natural calamities and disasters, people have to face severe problems and become helpless. Unavailability of food becomes the prime and important factor during such period. In such sensitive areas people must be made aware about the local wild plant species used by indigenous people during scarcity of food. Many such species have been proved to possess high nutritional value. Several hundred such nutritive species have been reported to be used by Indian tribes during scarcity of food.

At present the science of Ecology has been much emphasized for the protection of environment of this sylvan planet Earth. But at the same time no due attention was given to promote ethnobotany as an important field for conservation of environment through traditional beliefs, faith, taboos, germplasm collection etc. A coordination of both these disciplines could have given better results in this direction because no efforts or discussion on conservation of environment would be complete until the man is involved in it. It will not be out of place to mention that Dr J. W. Harshberger who first coined the word 'ethnobotany' was an ecologist.

This preface will not be complete without acknowledging the help rendered by Prof. Ashok K. Jain, Honorary Director, S.K. Jain Institute of Ethnobiology, Gwalior, who took great pain in editing and considerably improving the text, Dr. S. K. Jain FNA, Former Director, Botanical Survey of India and often called 'Mentor of Indian Ethnobotany' has kindly consented for writing the foreword for this book. The author is grateful to both of them. I am grateful to all authors and managers of websites from whom much information has been taken for the preparation of this book.

Whether you agree with me on the points stated is immaterial. I hope it generates discussion on the role and prospects of Ethnobotany in the 21st century.

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