



## THE WIDENING PANORAMA OF ETHNOBOTANY IN INDIA

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Though Ethnobotany was almost unheard word in India in middle of last century yet it deals with study of traditional and indigenous knowledge about man-plant relationships which exist since birth of man on this earth. Fragmentary or sometimes reasonably detailed indications of that relationship exist on archeological sites. Earliest documented knowledge about these relationships can be found in Vedas. The term Ethnobotany was coined by J. W. Hershberger in 1895. The paper gives overview of six decades journey of in a way newly borne discipline of Ethnobotany in India to its not only national importance and relevance but to a noticeable extent, impact on global ethnobotany. Mention has been made of self learning about the subject by the author holding several training courses and workshops on the subject in different parts of the country, an All India Coordinated Project on the subject, international collaborations, inclusion of subject at UG and PG level in Universities and its inclusion in thrust areas of research by various funding agencies and mention has been made of notable publications like dictionaries and several bibliographies on the subject and eventually showing the wide horizons and prospect of the subject in future.

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Though Ethnobotany was almost unheard word in India in middle of last century yet it deals with study of traditional and indigenous knowledge about man-plant relationships which exist since birth of man on this earth. Fragmentary or sometimes reasonably detailed indications of that relationship exist on archeological sites not un-often in early recent published text. Earliest documented knowledge about these relationships can be found in Vedas. The term Ethnobotany was coined by J. W. Hershberger in 1895.

After independence, the foresight of some distinguished scientists of that time (such as Satyen Bose, S.S. Bhatnagar, Homi Bhabha) and also some farsighted politicians, several scientific research Institutes were established and existing or new scientific surveys (GSI, BSI, ZSI etc.) were reorganized. Dr. E. K. Janaki Ammal who had become famous for her World Chromosome Atlas (with C. D. Darlington) who returned to India was appointed OSD to prepare a blueprint of Botanical Survey of India and for this work she was provided a room in CDRI, Lucknow.

A fact perhaps so far unrecorded and may be unknown to all is, that for the first time the word Ethnobotany was written in an official file in India in a room of CDRI, as part of duties

of Economic Botanist in BSI, a post which I as the first to hold this became the main ground for convincing the Director of R.C. of CDRI in Lucknow to change the name of the Botany Division to Ethnobotany. Not knowing it will become a turning point in my life and in due course will someday lead to numerous National and International awards in Ethnobotany. Metaphorically, Dr. Ammal lit the first candle in a totally dark room. But Ethnobotany was part of Economic Botany at that time. The first half of the six decades was spent in field work among the Gonds in Central India (Jain 1963 a,b) on the one hand and self learning, the definition, concepts and relevance of Ethnobotany on the other.

Assisted only by one or two associates, work was expanded to few other regions and ethnic groups. A very timely and rich support came from then DG-ICAR Dr. M. S. Swaminathan in the form of an All India Coordinated Project with good funds and work taken up in several regions of the country involving dozens of Botanists and also Zoologists resulting in dozens of research papers and a few doctoral theses on Ethnobotany (Jain and Borthakur 1980, Shah and Jain 1988, Saklani and Jain 1996, Pal and Jain 1998). The first book (Jain 1981) on the subject was a compilation of

about two dozen papers on different regions and ethnic groups.

This work triggered interest in many more Botanists. In order to provide clarity in precision, and concepts and methodology (Jain 1987, 1989), about a dozen training courses were organized at various teaching and R & D Institutes. This further expanded work in the subject. Today, several thousand research papers and about one hundred books on Indian Ethnobotany exist to provide consolidated account of this entire work to large dictionaries dealing with over 5500 plants giving ethnobotanical uses, and part used with reference of its source were published in 1991 (Jain 1991) and 2016 (Jain and Jain 1991). Indian work attracted worldwide attention and today India is a shining star on the global map. Some distinguished International authorities have stated that the largest band of workers led by S.K. Jain is in India (Jain 2000). The subject has created tremendous interest in the scientific community of the country and it has been included at UG and PG level in Universities and also included among thrust areas of research by various funding agencies like DST, MoEF etc.

The more one deliberates on the unique combination of rich both ethnic and plant diversity in India, more and more avenues of research of national relevance, panorama and horizons of the subject keep expanding (Jain 2004a,b, Jain 2005, Jain 2006, Jain and Kapoor 2007). The middle of 21<sup>st</sup> century will witness Centenary of Indian Ethnobotany and hopefully Ethnobotanists of that time will recall with pride not only the work done in the country in the first six decades but also much better work done in the last four decades.

As per today's understanding, some very challenging, useful and also rewarding lines of future work can be the following:

- 1) Intensive field work among remaining ethnic groups particularly in remote areas (Jain and Jain 2015).
- 2) Intensive work in two main groups of man-plant relationship namely material and

cultural relationships.

3) Comparison between two or more ethnic groups. *i.e.* Cross-cultural Ethnobotany which help in evaluating credibility of claims (Jain and Saklani 1992, Jain 2004a).

4) Material relationships used by local medicine man for treating ailments and injuries of people and domesticated animals and regions or among ethnic groups (Jain 1999).

- i) Wild edible plants in a region
- ii) Wild relatives or land races of crops used in a region (Jain and Jain 2017).
- iii) Plants used for making huts, cattle sheds, fences, domestic articles etc.
- iv) Dyes, fibres from local plants for handicraft, basketery, wicker work, mats, musical instruments etc (Jain and Borthakur 1980).
- v) Plants in which local sort of cottage industry exist or can be developed in eventual value addition and a source of income in that region (Jain 2013).
- vi) Plants used for making traps for birds, pests, wild animals and even fish in a region.
- vii) Plants used for making improvised water bottle (Cooling), tobacco pouch and other large or small containers, cattle alarms etc (Jain 1964 a,b).
- viii) Plants used for body ornamentation such as ear tops from certain fruits or necklace from seeds or beads prepared from various soft woods etc. in a region.
- ix) Plant products bartered or sold in exchange for urban things like candles, match boxes, cloth, bidi (cigarette), salt, detergents etc (Jain *et al.* 1977, Kumar and Jain 2002).
- x) And other articles related to their living & occupation.

#### ***Cultural relationships***

- i) Plants worshipped or offered in worship.
- ii) Plants related with few festivals (Pal and Jain 1998).
- iii) Plants associated with social aspects of life like maternity, child birth, wedding, death and such other occasions in a region (Jain *et al.*

1973).

iv) Plants involved in folk tales, idioms, proverbs, local names and even clan or personal names (Jain and Jain 2018a, Tirkey and Jain 2006).

v) Traditions, customs, totems and taboos leading to directly or indirectly conservation of biodiversity or healthy environment (like taboo to eat certain foods before they are ripe for regeneration, making musical instruments and most other wooden articles of daily requirement from only naturally fallen branches or trees, collecting fuel wood from fallen branches etc.).

#### ***Dimensions of Ethnobotany***

i) Plants referred in epics of various faiths.

ii) Plants related with life or sayings of deities of different faiths such and Hinduism, Islam, Christianity, Buddhism & Jainism.

iii) Plants related with planets, constellations and other astronomical phenomena.

iv) Objective Ethnobotany which means emphasis in most of our studies on particular aspect of multifarious facets of Ethnobotany like Ethnomedicine, Ethno-agriculture, eventually resulting in national relevance.

v) Dynamism in Ethnobotany: Ethnobotany of any region or ethnic group is never static or stagnant. It is ever evolving. The (1991) *Dictionary* (Jain 1991) and (2016) *Compendium* (Jain and Jain 2016) easily show which regions or ethnic groups were last studied 25-30 or more years ago. Such areas and ethnic groups are rich targets for study of changes *i.e.* dynamism.

vi) Credibility of folk claims, some models (quantitative, qualitative, analytical, statistical) have been suggested for this purpose (Jain 2004a, Jain and Jain 2017).

vii) Use of the same plant part for a disease in different regions or among several ethnic groups.

viii) Group statement by a local medicine man about the effectiveness over decades of his

experience.

ix) Urban Ethnobotany: It is a recent study conceptualized by some able Ethnobotanists who perhaps did not have access to areas rich in natural plant cover and un-acclimated ethnic groups. This new dimension of Ethnobotany again has in my opinion sky as a limit (Jain and Jain 2018b). Some possible areas of future study in India can *interalia* be the following:

a) Plants traditionally offered or associated with places of worship such as Coconut, Rice, Wheat, Pulses, Cloves, Almonds, various flowers like Datura, Gurhal, Tulsi, Bilwapatre, Mango leaves, Banana leaf etc.

b) Plants associated with fairs and festivals, like Palash flowers in Holi, Palash leaves for making plates and bowls, various ornamental flowers etc.

c) Plant associated with social ceremonies and rites from prenatal ceremony till closing rites after death like plants associated with Bach (*Acorus calamus*) given to new born thread ceremony, wedding etc. social visits like offering of Betel.

d) Plants cultivated on large commercial scale for social ceremonies like Marigold, Roses, Jasmine, Gladiolas, Orchids, Button hole, Ferns etc. Many of the plant products have given rise to large scale cultivation & consequently employment to millions of people.

Growing prospects of employment in metropolitan and many other large towns has also resulted in movement of mainly youth to places outside their state frequently carrying with them their socio-cultural or even spiritual customs and beliefs resulting in notable interstate socio-cultural exchange. Similarly, large number of less educated person work outside their native states for living to work either as skilled workers or as domestic help. For example, Telegu women primarily as workers in factories in Bengal, domestic help in Rajasthan. Such people from other states carry with them knowledge about preparation

of foods adjuncts, pulp of Tamarind, Copra, Cloves, Cardamom, Cashew and Banana chips are some of the notable items.

More and more avenues of this young subject in India will surely kindle creative young mind. As a result of several factors noted above, traditional man-plant relationship so far endemic in certain places will become known in distant corners of the country but may one day become only remnants of such relationships in the unfortunate event of their reduction on extinction of various reasons in their original homes.

The more one deliberates about our rich plant and ethnic diversity and needs of the masses certainly will open more approaches and applications. These are some of the challenges of the next four decades for those talented youth who will take it as a mission of their life to take the beacon of Ethnobotany from a man in the tenth decade of his life.

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