Chapter-2

Review of Literature
Ethnobotany is concerned with the study of tribals and people for recording their treasured and unique knowledge of plant wealth and for continuous research of new sources of herbal drugs, edible and other aspects of plants. It is important to note that the ethnomedicines of the tribals are very similar to the ancient Indian Ayurvedic System and it may be interesting to know whether and how the Ayurveda has influence the tribal medicines and vice-versa.

A study of plants used by the aboriginal tribes in Madhya Pradesh revealed that several uses to which plants are put by these people are not known to outside community. The paper reports such less known uses for fifty plants.

The plants are grouped in three categories such as plants used for food, medicine and miscellaneous purposes.

Six angiospermic plant were screened for their antimicrobial activity. Of those, the extract of bark of *Azadirachta Indica* exhibited strong antimicrobial activity against *Escherichia Coli*. (Ali. & Dikshit 1983).

The paper deals with 40 plant species used in stomach trouble by tribals of Ranchi and Hazaribagh district of Bihar state. Local name, locality and mode of use of these plant species have been mentioned. (Trafder, 1983).

During ethnobotanical field studies among the santhals Oraons, Mundas, Birher, Bedia mohatos, Kurmi mohatos etc. of Hazaribagh and
Ranchi districts of Bihar. The author has come across some plants viz., *Abras precatorius*, *Linn.*, *Ailanthus excelsa* *Roxb.*, *Asparagus racamosers wild.*, *Amaranthus spinosus* *Linn.*, *Annona squamosa* *Linn.*, *Cheilanthus termiphe swartz*, *Chlorophytum arundaceum* *Baker.*, *Cucurligo orchiodes Geartn.*, *Dendrophthoe falcata* *(Linnf) Etting, Diospyros montana* *Roxb.*, *Elephatopus scaber* *Linn.*, *Gloriosa superba* *Linn.*, *Gymnnma sylvestre* *R.B.r*, *Moringei oleifora* *Lamk.*, *Ocemum Sanctum Linn*. *Phyllanthus nirur* *Linn.*, *Piper betle* *Linn.*, *Plumbago indica Linn.* *Plumbago zeylanica* *Linn.*, *Solonum R.Br.*, *Viscum orientale Welld/ Zehereria umbellate Thw*, etc. which are used for abortion not commonly known to others. The indigenous plants was used by the adivasi for abortion were studied 74 species are discussed. These belong to 61 genera and 38 families. The botanical names families, tribal medicinal uses are uncorporated.

The herbal venders are the descendants of ancient mobile tribal medicine men. Now a days they sell crude herbal drugs on the streets of India. They have knowledge of medicinal plants- a skill which inherited from their forefathers. They are aware of the medicinal value of certain locally growing plants which are administered to control fertility (Sinha and Nathawat, 1989).

Binu et.al., (1992), presents a comprehensive summary of ethnobotanical research carried out in different states and union territories of India, especially after the initiation of organized study and research in Indian ethnobotany in the middle of this century. All the works published
since then on Indian ethnobotany, to the extent possible have been brought under this review. Relevant earlier works would also find their places in the text.

The ethnobotanical studies of Surguja district of Madhya Pradesh was carried out by Kumar and Jain in year 1998. The district is inhabited by a number of scheduled tribes, such as the Oraons, Gonds, Korwas, Kodakus, Majhwars, Panikas, Pandos and Cherwas, Folk used of 50 plant species are reported. Some magico religious belief about plants prevalent in surguja district are also reported. Botanical name, family, Local name, habit, parts used and locality for each plant species are provided.

The mythological significance in Greece, its introduction in England in 1585, its use in various festival and ritual and as medicine for the treatment of various diseases, are high lighted by Mitra (1998). The properties of Myrtle oil, use in modern medicine, pharmacological activity of the different parts and potential of the berries as a substitute for black-pepper, are discussed.

Prakash (1998), studied current status of Indian medicinal plants in relation to their use in ayurveda ethno medicine and modern medicine and also the efforts of researchers towards the development of modern medicine. In India, out of about 16000 flowering plants, 3000 are recognized with their medicinal uses and these medicinal plants can be grouped into three categories, viz plants of codified knowledge, Plants of empirical knowledge and plants of scientific knowledge, survey revealed
that 550 species are more commonly employed in 2000 commercial herbal preparations. A list of 19 species which are used in more than 50 preparations is provided. Other lists of plants species, used in ethno medicine and modern medicine are also provided.

Singh and Prakash (1998), have given ethno medicinal uses of five potential species for the treatment of jaundice and other liver diseases among Tharus, Kol, Gond, Kharwar and Korwa tribes of Uttar Pradesh. These medicinal plants viz, *Cajanus, cajan* (Asher), *Chlorozylon switenia* (Arhar), *Circium arvense* (Oont Katila), *Mallotus Philippensis* (Rohini) and *Ricinus communis* (Rendi) are used either singly or in combination with other plants.

Thomas et al. (1998), studied Ethnobotanical information on rattan palms among Adi and Nishing tribes in Arunanchal Pradesh, Indigenous uses of rattan palms along with their local name, botanical name, are described, Rattan palms are used by Minyong subtribes of Adi tribes as household items. Mainly seven groups of rattan which are used to make such items are ‘Yoyee’ (*Calamus gracilis*) ‘Jeyying’ (*C. Leptospadix*) Esong (*C. acanthispatus*) Ramang (*C. flagellum*) Tapi (*Plectocomia himalayana*) Takit (*C.inermis, C. latifolius, C. khasianus*) and Jha (*P. assamica*) names of items and their uses are presented in a table.

Upadhyay et al., (1998), reported ethno medicinal uses of 54 plants belonging to 35 families employed by the tribal people of Bihar for the treatment of skin diseases are described, Botanical name, tribal names,
(Santhal, Urang, Mundari and Paharia) parts used, bioactive phytochemicals pharmacological activities of each plant species and diseases for which these are used are enumerated. All the plants are used in crude from mostly from fresh raw material.

Decker–Walter (1999), reported that the significant role played by the cucurbits in Indo-Aryan food, medicine and culture. The indo-Aryan life has been described in vedic, early post–vedic Sanskrit works in northern India during 2000-2002B.C. Literature survey has revealed that over 300 words describing cucurbits are mentioned in the Sanskrit texts. Information was also compiled from other linguistic sources such as Turner, S (1966) A comparative dictionary of the Indo-Aryan languages, Burrow and Emeneau, S. (1961) A Dravidian Etymologican dictionary and Kusper S. (1948) Proto Munda words in Sanskrit. These words their etymological relationship and the geographic's of the cucurbit taxa were compared. Comparison of the biogeography, ecology, nomenclature and ancient literary references for Indian cucurbits showed that most of these cucurbit species were not known to the vedic speaking Indo-Aryan before that cultures, arrival to the sub continent. The linguistic and historical evidence suggests that many domesticated cucurbits were first introduced to the Indo-Aryan by India and non-Aryan inhabitants, probably during the latter half of the second millennium B.C. Some of the cucurbits described in detail are: Langeneria siceraria, Citrullus colosynthes, Cucumis sativus, Benincasia hispida, Momordica species, Coccinia grandis, Luffa species and Trichosanthes species.
Flamini et al., (1999), studied the anti microbial activity of the oil obtained from *Calamintha nepeta* against *Fusarium moniliforme, Botrytis cinerea, Aspergillus niger and Pyricularia oryzae*. Components were also isolated and only pulegone was found to have antimicrobial activity.

Aboutable et al., (2000), reported 40 components in fruits oil and 20 components in leaf oil of *Amoora rohituka* identified. Both the oils were antibacterial but antifungal activity was not recorded.

Aqil et al., (2000), evaluated Antifungal activity in essential oils of Pepermint, Clove and Eucalyptus against *Aspergillus niger, Alternaria alternata* and *Fusarium sp.* In terms of minimum fungicidal concentration. Clove oil was found active most.

Dubey et al., (2000), reported the Indian chemotype had ethyl cinnamate in the leaf of *Ocimum gratissimum* was found to have broad spectrum activity against derma topytes.

Jain and Jain et al., (2000), reported six fungicides and essential oils of four plants in *W. somnifera against Alternaria tenuis* to assess their effectiveness. Best results were obtained with palmarosa oil and carbendazim.

Ethnobotany deals with the study of total natural and traditional inter relationship between man and plants, and man is domesticated animals, gathering jungle fruits or tubers or hunting animals for food by the earliest man on this earth was the birth of ethnobotany and ethnozoology. The journey of ethnobotany from those early beginnings through
ages has been long. This discipline became established as a genuine academic and research activity in the second half of the twentieth century. Until recently it was not appreciated that sustainable development could be achieved only through full understanding and integration of cultural aspects of biological diversity and participation of the indigenous people of any region. The interrelationship between man and plants can be first divided into materials and cultural (or spiritual) relationships and then placed in one or more of the following four categories:

(a) Relationship useful both to man and plants.
(b) Relationship useful to man but harmful to plants.
(c) Relationship useful to plants but harmful to man.
(d) Relationship harmful both to man and plants.

Some interdisciplinary topics or sub disciplines of ethnobotany are: ethno ecology, ethno gastrology, ethno horticulture, ethno medicology, ethno musicology, ethno pharmacology, ethno pharmacogrosy, ethno phytotaxonomy, ethno pteridology, ethno bryology, ethno algology and ethno veterinary. Methods of ethnobotanical research depend on the objective or end product in mind. They are various, but can be put in two broad categories, viz field research and literary research. For collecting large number of plants for biological screening, three broad approaches are possible, viz random collection, collection of plants of families rich S.K. Jain, 2000.
Aligiannis et.al., (2001), identified 99 compounds in five taxa of *Sideritis clandestine*. There qualitative and quantitative differences were observed. Oils exhibited antifungal activity against three fungi.

Aqil et.al., (2000-2001), evaluated oil of *Mentha sp.*, *Syzygium aromaticum* and *Eucalyptus globules* for their antifungal activity against soil born fungi including *Aspegillus, niger, Alternaria alternata* and *Fusarium chlamydosporum*. Clove oil was active most.

Khan and Zubairy (2001), showed Thymol and Eucalyptus oil against antifungal activity while in camphor weak activity.

Kishore et.al., (2001), evaluated oil of *Artimisia nilagirica* which have antidermatophytic at 200 ppm concentration. It was fungistatic and broad spectrum. The prepared ointment of the oil inhibited dermatomycosis in guinea pigs within 14 days of application.

Savitha & Sullia (2001), studied the effect of oils and extracts was studied on *Mucor circinelloides*. Neem bark and *Ocimum* leaves were more effective.

A detail study on herbal medicine of Asian countries was studied by Sheng (2001). The important part of his study includes the use of traditional herbal medicine in different countries, however, in some countries in recent years ethnobotanical studies have been used for the discovery of new drugs and new drug development. In general, experiences gained from ethnobotanical approaches of traditional medicinal studies in China and Himalaya countries have helped drug
cases over harvesting degradation of medical plants and loss of traditional medical knowledge in local communities are common problem in these resource areas. Issue of indigenous knowledge, intellectual property rights and uncontrolled transboundary trade in medicinal plants occur frequently in the region. This paper discusses ethnomedical approaches of traditional medicinal studies, in reference to experiences from China and Himalayan countries, with an emphasis on the conservation of traditional medical knowledge and medical plant resource.

Vidya and Vidya (2002), evaluated the different ratio of 5 essential oils of Polyheral preparation of essential oil and fixed oil against Candida albicans, Trichophyton mentagrophytes, T. rubrum and Microsporum gypseum. It showed strong antifungal activity.

David et.al., (2003), observed relationship between plant location and its environment play an important role, now a days. The use of a GIS constitute an essential complement for there studies that allows the incorporation of space and the analysis of these ecological interactions. GIS is being used at the Lisbon University Botanical garden as a tool for conservation programmes on several plant groups and situations. Four case studies are presented in this work:

1. Comparing ecological patterns between local and regional scale for the endangered bryophyte Bruchia vogesiaca schiwaegr.

2. Selecting protected areas according to habit suitability – the case of endangered portuguese bryophytes.
(3) Analyzing the impact of the alien carpobratusedulis (L) N.E. Br. On endemic plant species at the Berlengas Natural reserve.

(4) Eco-geographical survey for selection of sites for seed collection in order to guarantee a representative sample of the existing genetic diversity. Finally, this work discusses how the implementation of GIS can help to optimize results and field work effort.

Rodrigues et.al., (2003), was conducted in the natural park of "Serra de sad Mamede" (Portugal). Informal interview involving us informants provided the data of about 165 useful plants, 150 of which had medicinal or aromatic use. Two hundred and twenty four popular names were noted, 98 of which had not been documented before. The most relevant plants are mentioned in this paper, along with their local names, the parts of them used, popular uses (or troubles treated) preparation and administration process, and frequency. This is the first study of medicinal and aromatic plants in Portugal to use ethnobotanical methodology.

Ignacimulthu et.al., (2006), carried out an ethnobotanical survey to collect information on the use of medicinal plants in Southern western Ghats of India (Madurai district, Tamil Nadu). Information presented in this paper was gathered from Paliyar tribes using an integrated approach of botanical collections, group discussions and interviews with questionnaires in the year 1998–1999. The informants interviewed were 12 among whom 4 were tribal practioners.
Teklehaymand and Giday (2007), to investigated the use of medicinal plants by people in Zegic peninsular north western Ethiopia. Information was gathered from 200 people, 70 female and 130 males, using semi-structured questionnaire of which, six were males, local healers. The informants except the healers were selected randomly and no appointment was made prior to the visits. Informant consensers factor (ICF) for category of ailments and fidelity level (FL) of the medicinal plants were determined. Sixty seven medicinal plants used as a cure for 52 ailments were documented. They are distributed across 42 families and 64 genera. The most frequently utilized plant part was the underground part (root/rhizome/bulb) (42%). The largest number of remedies was used to treat gastrointestinal disorder and parasites infections (22.8%) followed by external injuries and parasites infections (22.1%). The administration routes are oral (51.4%) external (38.6%) nasal (79%) and ear (2.1%). The medicinal plants that were presumed to be effective in treating a certain category of disease, such as ‘mich’ and fertility disease (080) had higher ICF values. This probably indicates a high incidence of these types of diseases in the region, possibly due to the poor socioeconomic and sanitary conditions of this people. The medicinal plants that are widely used by the local people or used as a remedy for a specific ailment have higher FL values (Carissa spinarum, Lausena anisata, Acokanthera schomperi, Calpurna aurea, Ficus thonnigic and Cyphostemm junceum) than those that are less popular or used to treat
more than one type of ailments (*Plumbago zeylanidim, Dorsteria barnimiana*).

Collins et. al., (2007), made an ethnobotanical study of medicinal and poisonous plants used by the East Timor resistance was under taken in the lauterm district of East Timor to study medicinal plant use in the region. Interviews were conducted with a single key consultant from the resistance army who belonged to the Fatalaku culture. This study is of importance as a historical document and because no previous medicinal ethnobotanical studies on this region exist.

Daniel et. al., (2007), Determine the relative influence of medicinal use, height and geographical range on the chronological sequence of the first verifiable printed records of 1239 native species of flowering plants in the U.K. In the period from 1538 to 1550, medicinal plants were 5 – 15 (95% confidence interval) times more likely to be discovered than non medicinal plants. By 1600, 75% of medicinal plants have been discovered and subsequently medicinal use had no significant influence on the probability of discovery. From 1538 to 1983, a hundred hected increase in area resulted in a 4-6 % increase the probability of discovery. There was a small but significant decrease in the influence of area on the probability of discovery over the entire time period. In the same time period a 10 fold increase in height resulted in a 3-35 % increased probability of discovery.
The ethnobotanical studies on Abujhmaria tribe were carried out by Kumar (1966), Maheshwari (1989), Maheshwari and Dwivedi (1985), Roy and Chaturvedi (1986a, 1986b, 1987) and Sahu (2000).


A paper on wooden musical instrument of Gonds was published by Jain (1965) and on ethno medicine by Rai and Upadhyay (1997) and Rai et.al., (2000).

Maheshwari et.al., (1990) published a paper on medicinal plants used by Oraon in their health care needs.

Works on ethnobotany of Sahayra tribe has been carried out by Sharma (1992) and Painuli (1992).

The Gwalior forest division and its adjoining areas were explored by Anis et.al., (2000), Bhatnager et.al., (1971, 1973), Kaushik and Singh


Ethnobotanical study on Sagar district was carried out by Bhalla et al. (1982) and Bundelkhand as a whole by Bhalla et al., (1996) and Dubey et al., (2000) Rewa district by Dwivedi (1999), Bhopal region by Chaghtai et al. (1982), Javed and Chaghtai (1982) and Khan et al., (1992, 1994).

Chhattarpur district was surveyed by Datt (1996) and Khare and khare (1999).

Surguja (Ambikapur) district was explored by Jain and Singh (1997), Kumar (1999a, 1999b) Kumar and Jain (1998, 1999) and Sikarwar (1992).


Mandla district by Maheshwari (1984) and Jabalpur by Oommachan and Masih (1989), Both districts were jointly explored by Judah and Oommachan (1994), Saini and Oommachan (1993) and Sharma and Oommchan (1994).


Various papers on ethno gynaecological disorders (diseases and ailments related to women) were published by many workers viz, Sahu (1982), Saini (1996), Saini and Oommachan (1993) and Sikarwar (1993). Two papers on antifertility and planning by Srivastava et al., (1990) and Oommachan (1981) respectively and one paper on hair treatment were published by Tirky et al., (2000).

Several papers were published in different tribal groups have their own culture tradition beliefs customs etc. various papers on magicoreligious belief were published by Jain (1963) Dubey et.al., (2000), Jain (1995), Sahu (1999) and Judah and Oommachan (1994).

Some papers on wild plants food of the tribal's of baster were published by Jain (1964a) Gupta and Mishra (2000), Sahu (1996) and Sikarwar (1994).

M.P. is one of the largest states having highest livestock population. Only two papers on ethno-veterinary medicines were published by Sikarwar (1996) and Sikarwar et.al., (1994).

A significant work on traditional knowledge of medicinal plants of indigenous people in Baster (MP) was carried out by Bhardwaj and Rai (2000), Hemadri and Rao (1989), Jain (1963, 1964a,1964b,1964c, 1965),


Traditional health care among tribals of Rewa district of Madhya Pradesh with special reference to conservation of endangered and vulnerable species was reported by Dwivedi (1999), Jain (1998, 1989, 1992), Oommachan and Masih (1991) and Sikarwar (1998) the tribals play an important role for conservation of plants through religious beliefs, traditions, faiths, associated with their claus name, local Gods and Godesses etc. A paper on socio-religious beliefs was published by Judah and Oommachan (1994), Sahu (1999) and Shu (2000).

Papers on tribal craft were published by Jain (1964, 1965b) Kumar (1999) and Maheshwari and Painuli (1990).

Baiga, Bhill, Bhillala, Bharia, Gond, Kamar, Kol, Korwa, Muria, Oraon, Sahariya etc. tribes are distributed in five zones of Madhya Pradesh.


Central Government considered Sahariya tribe as one among the seven primitive tribes of M.P. namely Baiga, Bhariya, Abujhamar, Bhil, Korba, Kamar, Sahariya and Birhor ( Sharma 1991, Sikarwar 1991a, b, and 1993).

According to Cunningham the word Sahariya is similar to Paithion word Sawi or Sawar means an axe. In the past they were known as axe men working in the forest (Pandey 1988).

In Gwalior and Chambal division even now all adult male Sahariya always keep axe on their shoulders, because this tool is of multiple use in the think forest to cut trees, to cut down branches, to take out the bark to make wooden tools to chop off bamboo for making baskets or any other
use like hunting wild animals defense etc. It is also used for dressing poultry, vegetables and even goats. They have no bow and arrow like other tribals of state. They assert kinship with Rajput and are considered as an off shoots of Bhil (Gupta and Gupta 1991).

The literacy percentage is very low in Sahariya tribe. It is about 16.8% only because they are very poor (Anonymous, 1986).

Guano (inscribing the body with some marks ) so most for all Sahariya women (Sikarwar 1991a, b).

Some plant species used for making tattoo and staining are: *Boswellia serata, Bombax ceiba, Azadirachta indica, Albizia lebbek,* *Echinops echinatus, Pterocarpus marsupium and Euphorbia prostrata* (Jain, A.K. 1995).

The Sahariya generally reside in a compact phallia or tola of the village. The Sahariya village comprises of small units (15-35 huts) called Saharana. All the huts of a Saharana are built facing towards the center, where a place of worship (their local gods) is constructed. Between the Saharana a large bungalow exists which is common for all and used as guest room, panchayat room and for setting disputes. It is a big room where 30-40 guests can stay at a time (Sikarwar, 1993).

In Gwalior and Chambal division the names of Saharana are very interesting. Such as Holibab, Ambala, Acharbala, Mirchibala, Baribala, Lengoabala, Tapariyabala etc. (Sikarwar and Kaushik, 1993).
Certain clans of Sahariya are named after certain plants which occur in neighbouring forest. It is observed that the Sahariya do not even touch the plant to which their clans name belongs. The table-2 shows the names of such clans which their clans which are related plants. The local names and their manner in which conservation of plants affected are also mentioned (Jain A.K. 1989, 1992 and Sikarwar, 1991a, b).

The importance of the tradition of clans among Sahariyas in conservation of plants is evident and directs (Jain 1988, and 1989).

The children’s name are related with months plants or festival or some special incidents that occurred at a time of their birth (Jain and Sharma, 1996 and Sikarwar).

The Sahariya have national ownership over Salai trees (*Boswellia serrata*). They never allow destruction of Salai trees and treat them as their ancestral property. During the division of a family, the trees are also given as gift to daughters as dowry in marriages. The status of a tribal family is adjudged by the no. of Salai trees over which it has national ownership (Mishra, 1997).

In Sahariya a man cannot marry his mother’s sister daughter mother’s brother’s daughter and father’s brother’s daughter because they are considered to be brothers and sisters (Sikarwar, 1991a, b).

Folk proverbs are common among Sahariyas. They are fond of singing on various occasions and during get together in evenings. The themes of many of the songs are plants based (Jain and Sharma, 1996).
The staple food of Sahariyas is sorghum, bajra, maize and sometime wheat. They collect wild plants from the surrounding forest and utilize them for edible purposes. They collect edible fruits which are either eaten raw or cooked as vegetable. Leaves, tender shoots, roots, tubers and sometimes flowers are also consumed as vegetables (Sikarwar 1993, 1994).

The Sahariya are skilled in craftwork. They utilize about 40 indigenous plant species for making baskets, comb, cymbal, ladle, pestle, pitcher base door, windows, wheel of cart, various agricultural implements, toys, churner, tobacco case, water bottle, bullock carts, musical instruments etc. These are described along with their local names and uses are enumerated (Maheshwari and Painuli 1990).

Use of scanty dress and minimum ornaments may be called the Sahariyas characteristics style of life. Dress of this tribe is very simple. The usual dress of a man consists of a dhoti and upper garment Saluka and head dress safa (turban). The adult man use turban to cover the head. They bear saluka and safa on ceremonial occasions and when they go to market or to visit their relatives in other villages small boys are found dressed in shirts footwear are not common among the Sahariyas. Women dresses are also very simple. Women put on ghagra and choli. They usually put on a bunch of a glass of bangles on her both wrists along with one or two flat type of silver bracelets. They also put on metallic ear rings, finger rings, Ankle rings are also used in rare cases. They also put
on silver made Khangwari (Neclace) on their nack (Sikarwar, 1991a, b and 1993).

The Sahariya have very little land with the result that they work as agricultural labourers' to earn their livelihood. They possess 41% agricultural land and remaining 59% are landless. Those who possess land have their own cultivation, but the landless are to depend on income from labour, particularly as agricultural labourer, forest labourer, mining labourer etc. As mentioned earlier, the staple food of the Sahariya is Sorghum, bajra, maize and sometimes wheat but these agricultural crops do not fulfill their requirement throughout the year and they have to depend on forest and forest resources where they earn substantial portion of their economy. They collect root, tubers, fruits and flowers from the forest for edible purpose. They also collect tree leaves (bide), fruit (chironji), gum, lac, timber wood, fuel weed and sell (Sikarwar 1997). Food gathering hunting and fishing from an insignificant part of their economic life. They also possess some domestic animals such as cow, bullock, goat some possess buffaloes and poultry but rearing of cattle does not from an important part of their occupation. They are also engaged in rearing the traditional *Kosa cocoons* in the region (Crooke 1896, and Raizada, 1984).

According to the divisional forest officer of Sheopur and experiment in commercial exploitation of Salai trees initiated by the state export corporation in 1890, had failed. Because of 10,000 quintals of gum collected from Salai trees during 1980-83, 8000 quintals was damaged as
it was not lifted in time. With the result the entire commodity was sold at the rate of Rs. 3 per kg., against the fixed minimum prime of Rs. 28 to Rs. 32 per kg. Now the forest department has handed over the entire system of exploiting and marketing to Co-operative societies of the Sahariya tribal's. As a precautionary measure the forest department floated advance tender and received offers from industrialist from different part of the country who agreed to pay Rs. 23.50 per kg. against the minimum rate of Rs. 15.50 fixed by the Government. In this year thirteen units of the co-operative societies had earned a profit of Rs. 33 lakhs after distributing Rs. 67 lakhs among the 11,000 members. The profit would be distributed among all members (Sahariya) as bonus. On an average each family would be richer by Rs. 9,000 in the first season of gum production (Mishra, 1997).

The plant cultivated for food by the local people as cereals are: bajra (Penninsetum americanum), Juwar (Sorghum vilgare), Chawal (Oryza sativa), Gehun (Triticum aestivum), Jau (Hordeum vulgare) and Makka (Zee mays). Pulses are Chana (Cicer arietinum), Arhar (Cajanus cajan), Urad (Vigna mungo), Mug (Vigna radiata), Masur (Vigna mungo), Tili (Sesamum indicum) and Alsi (Lenius usitatissimum) vegetables are: Bhanta (Solanum melongena), Alu (Solanum tuberosum) Tamatar (Lycopersicon esculentum), Bhindi (Cucurbita pepo), Lauki (Lagenaria, siceraria) and Taroi (Luffa cylindrical), (Sikarwar and Painuli 1992) of Pal and Banerjee in 1971 surveyed. The nutritional property of the less known plants used by the tribal in Andhra Pradesh:
This was followed by the study of ethnobotany of Araku valley in Visakhapatnam by Banerjee (1974). Hemadri (1976) made an investigation on raw drugs of this state.

The world health organization has estimated that over 80% of the global population relay chiefly on traditional medicine (Akerele, 1992). It was officially recognized that 2500 plant species have medicinal value while over six thousand plants are estimated to be explored in traditional, folk and herbal medicine (Huxley, 1984). It is hoped that in the future, ethnobotany may play an increasingly important role in sustainable development and biodiversity conservation (Rajasekaran and Warren 1994). Ethnobotanical investigation has led to the documentation of a large number of wild plants used by tribal's for meeting their multifarious requirements (Anonymous 1990). From 1960, Jain started intensive field studies among tribal areas of central India (Jain 1963 a-e, 1964 a-c, 1965 a-b). An AICRP on ethno biology came into operation from 1980 at NBRI, Lucknow and four centers (Shillong, Howrah, Coimbatore and Port Blair) of Botanical survey of India (Jain and Mitra, 1997). Mudgal (1987) provided a synoptic account of ethnobotanical works in India. Binu et.al. (1992) compiled the ethnobotanical work carried out in India. Later, Lalramnghinglova & Jha (1999) reviewed work on ethnobotany of the world with special reference to India. Haimendorf (1943, 1945, 1979) published accounts of Chenchus. The Reddits of Bison Hills and the Gonds of Adilabad, Pal & Banerjee (1971) reported the less known plants foods among the tribal's of Andhra Pradesh and Orissa. Krishnamachari


ethnobotanical survey of plants used to treat asthma in Andhra Pradesh.
K.N. Reddy et.al., (2007), reported the traditional knowledge on wild
food plants in Andhra Pradesh while K.N. Reddy & C.S. Reddy (2008),
enlisted first red list of medicinal plants of Andhra Pradesh. Conservation
assessment management planning (CAMP) K.N. Reddy et.al., (2008),
carried out the work on plant used in traditional handicraft in North
eastern Andhra Pradesh. Gayatri & Srividya (2008), add a note on
ethnomedicinal knowledge of traditionally used edible leaves, seeds,
flowers among women—A transgenerational study.