WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
SJIF Impact Factor 7.523
Volume 6, Issue 7, 658-677. Review Article ISSN 2277– 7105

TRADITIONAL USES OF AYURVEDIC MEDICINAL PLANT IN REFERENCE TO KATHURIA AND DANGAURIA THARUS OF SOHELWA FOREST, BALRAMPUR UATTER PRADESH

Archana Mishra[1], Dr. Purnima Shrivastava[2] and Dr. Bhanwar Lal Jat*[3]

[1]Research Scholar Department of Botany, Bhagwant University Ajmer, Rajasthan India.

[2]Department of Biotechnology, Bhagwant University Ajmer, Rajasthan India.

[3]Department of Agriculture Biotechnology, Bhagwant University Ajmer, Rajasthan India.

Article Received on
06 May 2017,

Revised on 26 May 2017,
Accepted on 16 June 2017

DOI: 10.20959/wjpr20177-8815

***Corresponding Author**
Archana Mishra
Research Scholar
Department of Botany,
Bhagwant University
Ajmer, Rajasthan India.

ABSTRACT

Medicinal plants are viewed as possible bridge between sustainable economic development, affordable health care and conservation of biodiversity. The present paper deals with enumeration of medicinally important plants grown in different districts of Uttar Pradesh for treatment of different ailments such as cold, cough, fever, gastro intestinal disorders, etc. This study provides immense scope for biochemical analysis and screening of the active principle of the medicinal plants present in Uttar Pradesh for futuristic growth in the field of drag development.

KEYWORDS: Medicinal Plants, Tribals, Ayurvedic industries, Herbal medicines, Traditional use.

INTRODUCTION

There has been a shift in universal trend from synthetic to herbal medicine recently. It is ancient wisdom that plants have therapeutic value and are used to treat various diseases since Neanderthal age. All ancient civilizations in the world are known to use plants for medicinal purposes. Ayurveda and traditional Chinese medicines are well known to the world for their natural ingredients and multiple benefits. Nature has bestowed our country with an enormous. Wealth of medicinal plants; therefore India has often been referred to as the medicinal garden of the world. Medicinal plants play an important role in human life to combat diseases since time immemorial. The rural folks and tribal in India even now depend largely on the

Surrounding plants/forests for their day to day needs. Medicinal plants are being looked upon not only as a source of health care but also as a source of income. The value of medicinal Plants related trade in India is of the order of 7.5 billion US dollar and is further increasing Day-by-day. The international market of herbal products is estimated to be US $62 billion. India share in the global market of medicinal plants trade is less than 0.5%. In view of the Innate Indian strengths, which include diverse eco-systems for growth of medicinal plants, technical/farming capacity, strong manufacturing sector, the medicinal plants sector can provide a huge export opportunity after fulfilling domestic need. The government of India has recently set-up a national level body, the NMPB for the growth and development medicinal plants sector (MPS) in the country. There is a need to streamline and strengthen MPS with a view to promote integrated development by co-ordinating, stimulating production, processing, marketing and establishing a sound infrastructure of the sector in the country. Government of India aims to make the cultivation of medicinal plants and its sustainable management, a people movement. The varied agro-climate conditions in India make it suitable for growing a wide range of valuable medicinal plants. The production of medicinal plants being labour intensive generates increased employment opportunities for the farmers particularly the rural masses/tribal's and enhances their incomes. Growing medicinal plants is much more remunerative as compared to growing cereals, horticulture crops etc. Indian herbal market is rising sharply and the herbal market has an annual compounded growth rate of 20 and 25%, respectively. India is followed by china as the largest producer of Medicinal plants having more than 40% global diversity. Worldwide, the Ayurvedic industry is Put at $3 billion and is slowly gaining acceptance as an alternative system of medicine and health care. The world health organization (WHO) has projected that the global herbal market Will grow to $5 trillion by 2050. The annual turnover of the Indian herbal medicinal industry is about Rs. 7,500 crore as against the pharmaceutical industry's turnover of Rs. 14,500 crores with a growth rate of more than 15%. India has a vast and rich resource of herbal materials raw and it can create a niche for itself in the global herbal market if the domestic industry produced.

Geography

Geographically, the forests of Sohelwa Wildlife Forest Division are situated in between 27o 30'1" N to27o 55' 42" N and 81o 55' 36" E to 82o 48' 33" E. The forests area is distributed in three adjoining districts of Balrampur, Shrawasti and Gonda covering an area of 51273.80 hact. Stands in Balrampur district. And 17052.10 hact. Area lies in the Shrawasti district. A

separate area of 621.82 hact. Which is mostly devoid of any old vegetation, is in Gonda district known as Parvati Argaa Bird Sanctuary. The Sohelwa forests are bordered by the Nepal forests and hills in the north. Balrampur district is surrounded by Siddhartha Nagar district in the east; Gonda district in the west and Basti district in the south. Actually these forests are in the form of a strip of 5-8 km in width running all along the Nepal border up to a length.

Configuration of the ground

The forests are situated between the altitudes of 120mtr and 200mtr above the mean sea level. These are traversed from north to south at frequent intervals by the nullahs with high embankments; having beds which are bouldry in the north, sandy in the south with gravel in the middle parts. Nullahs are mostly dry in the summer.

Geology, rock and soil

Forests of Sohelwa stand on old Gangeticalluvium. Soils are generally low lying, single grained and sandy loam in texture.

Social and Cultural Systems and Life Style

The economy of Tharu community is based on Agriculture and forest (Pradhan, 1937 p59). Historically, they were the only ones that were able to reside in the malarial jungles on the Indo-Nepal border. But as mosquito control became available, many others have migrated into this tribe's areas. They have deep affiliation with forest and river. The Population of Tharu tribe is near to one lac in India and in Nepal this figure is 1533879, it is 6.75% of total population of Nepal (Nepal online). This tribal community has many specialties about their culture and socio-economic systems. There are many clans in Tharu tribe those called *Kuri* in their local language, name s of main clans (Kuri) are as followed Badwayak, Battha, Rawat, birtiya, Mahto, Dahait, Rajia, Bunka, Sansa, Jugia, Buxa, Dhangra, and Rana. All of these Tharu clans are divided in lower and high status (Truner, 1931 p599). The Tharus followed Hindu religion, but after all they purely a tribal community by anthropological point of view. Tharu people worship mainly their tribal Goddess called as *Bhuiyan* or *Bhumsen* with other Hindu God & Goddess. Government of India has been accepted this community as a Scheduled Tribe. The fact is that the Tharu themselves did not keep written records and what is known of their early history is derived from passing references in religious texts and etymological evidence. It seems probable that there is not just one origin of the Tharu and that the people arrived in the area from different places at different places at different times.

As such there may be truth in all the theories. The *Panchayat* system (Local Social Council) is very strong in this tribe; head of *panchayat is* called *Padhan* in local Tharu language. The Tharus love their folk arts. Tharu Songs, Tharu dance *Naach*, Tharu tattoos, Tharu wall paintings, Tharu handicrafts, and Tharu magic is very interesting and special. Mark able fact is this that they make handicrafts only for personal use doesn't for marketing purpose. They like contrast colures in dress and wall paintings for decoration of house (Govila, J.P.1959 p248) Main food of Tharus is Fish and Rice but they also used Roti, Vegetables, Mutton, Chicken, Milk products and more others But since hunting is banded in forest they cannot use more non-vegetable food because of poverty they cannot afford expensive Mutton and chicken, but they use more and more fishes in their food. Tharus are very host able and they respect their guests very much. They like to serve best and more food dishes for guests. Tharus have very friendly nature, every Tharu people have a best friend in their life, male best friend of male called as *Meet* or *Dilbar* and female best friend of female called as *Sangan*. Tharus treat their best friend as real brother and sister. Some Tharu live in longhouses, which may hold up to 150 people. The longhouses are built of mud with lattice walls. They grow barley, wheat, maize, and rice, as well as raise animals such as chickens, ducks, pigs, and goats. In the big rivers, they use large nets to fish. Because the Tharu lived in isolation in malarial swamps until the recent use DDT. They developed a style of decorating the walls, rice containers and other objects in their environment. The Tharu women transform outer walls and verandahs of their homes into colourful paintings dedicated to Lakshmi, the Hindu goddess of prosperity and fertility. Tharu Village: - The Tharus have small populated villages and generally scattered and are often located at a miner distance. The Tharus are always in search of a good site for founding their villages. A good site in their judgment must be the land on a high level with proximity to river or some water supply yes safe from water-logging and inundation during the rainy season. (Srivastava 1958:19). The Tharus build their houses with enough distance to each other for better life style. The village dose not has bachelor's dormitories or community houses, menstruation huts, guest houses and special granaries for common use and distribution. The House of *Padhan* (Chief of Village) is very important place of village. Even a casual to a Tharu Village is impressed by the neat arrangement of the houses, their cleanness in contrast with the congestion of other villages in India. A Tharu village, therefore, represents a closely knit society unites of which have developed a bond of fellowship and corporate life through mutual obligations and co-partnership. Tharu Houses: - The Tharus are famous for their clean houses. Generally Tharus build their house by Mud, Wood and Grass. The Tharus houses are always cool in summer

and hot in winter, it is a specialty of Tharu houses. Each house with its field and a vegetable garden is a detached residence with a narrow or a broad alley separating it forms the adjacent houses. The house must face the east to bring them prosperity, which the other directions of the house donot promise. The Size of the house is depends on size of family. The *Than* (place of worship) is must in every house. On the side of the main house the well-to-do Tharus build a *Bangla* (the Rest House). Both the exterior and interior of the Tharu houses present a neat and clean appearance. They are swept twice or thrice a day and the ashes and house-refuse are thrown near the cattle-sed or in fields.

Fig-House of Kathuria Tharu in Panchapedawa Village

Fig-House of Dangauria Tharu in Panchapedawa Village

RELIGION

Tharus follow Hindu religion because they claim that they are migrated with *Rajputs of Rajasthan* by blood. This is very interesting fact because they have not any specialty of Rajasthni Rajputs in their Race and Culture but they claim blood relation with them (Kumar,

N 1968 p39). Tharus are related with Mongoloid race and Rajputs have different race. Dr. D.N. Majumadar contested the supposed Rajput origin of the Tharus on the basis of blood group tests and they have found that Tharus have Mongoloid race, so they not related with Rajputs (Majumadar 1941:33). The Tharu are adherents of Hinduism, but also held Islamic, Animist and Buddhist beliefs. Small numbers have converted to Buddhism in the recent years. Such syncretic practices have led Tharu to practice folk Hinduism. With the advent of religious freedom, others have converted to Christianity and there are a variety of congregations active in the various districts where Tharus are found. Traditional Tharu worship various gods in the form of animals such as dogs, crow, ox and cows. Such gods are seen in Hinduism. Every village has their own deity, commonly known as Bhuinyar. Tharu in East Nepal call their deity Gor-raja. Most Tharu households own a statue of a traditional god. Family members often offer animal's blood sacrifices to appease the god. Animals such as pigeons and chickens are used for sacrificial purposes. Milk and silk cloth are also used. Many Tharu would also use the blood of one of the male members in the family for such rituals. Such rituals are conducted through ceremonies, and superficial cuts are made forehead, arms, throat, legs, and/or chest. The gods are believed to have the ability to heal diseases and sickness. According to traditional legend, gods are given a bhakal, a promise of something, on condition that the sickness is cured, in any events of misfortunes, plagues and horror dreams. A relative's death is an event of great significance among Tharu, and rituals conducted varies in accordance to regions. Tharu would approach shamans as doctors, known as Guruba. Suchshamans use Buddhist medicines to cure illness. Shamans will also try to appease gods through incantations, beating drums and offering sacrifices. The Tharu believe sickness comes when the gods are displeased, and the demons are at work. Buddhist converts among the Tharu are found in Saptari, Siraha and Udaypur. Currently it is believed that there are more than one dozen of Buddist Monks and novices among the Tharus. Such practice was possibly based on the fact that they were inspired by the discovery of Lord Buddha as a member of the Tharu tribe.

Status of Awareness Environment and Pollution

Historically The Tharu culture is very Eco-Friendly, all cultural thing and activities of this tribe are deeply related with nature. Their residence, food, cloths, art, religion, economy and many other part of life are based on nature and keep ecological balance. Tharu people worship mainly their tribal Goddess (The Earth) called as ‘Bhumsen’ in their folk language. The old generation of Tharu community is more aware about nature and environment than

new generation. According to S. K. Srivastava (a famous Indian Anthropologist) in the year 1930 the Social Reform Movment which is popularly known as *Jati Sudhar* (reforms in cast) among the Tharus was initiated by a handful of educated Tharus. (Srivastava 1958:105) Main some Rules of this movement are as following (which are showing the care ness of old Tharu generation)-(i) Women in their menstrual period never to enter into the kitchen or cook meals. (ii) Women must clean their hearths and put on clean cloths before cooking meals. (iii) All rubbish of the house and refuse of the cattle must be thrown in a ditch outside the village or in fields and not on the path. (iv) No liquor and meat to be served at any ceremony.

Traditional Tharu houses making system, Agriculture system, cooking system are based on a natural law that is Why the environmental valance never disordered in past. But at present there are many other communities existing in Tharu area by Industrialization and Business, so the process of cultural exchange is running in Tharu area. Tharu youth are attracting to new and charming life style. They are ignoring their traditional tribal culture that is why the identity of old Tharu culture is under dangerous. They must have to get advance education, communication, technology etc. But care of old culture is just too for keep their identity. Main problem of Tharus youth is that they want new life style but they do not know about new and current environmental issues. They like using all type of modern thing (which make pollution) without care of environment. This is situation of highly educated youth than we can easily imaging the status of other general Tharu youth.

The Current Problems and Changes among the Tharu Society

The Indian Tharu youth are very important wing of their community. They are playing very creative role in their community. But they are not connected with mainstream of development. Some youth are trying to get higher education and advanced technology but in little number. They have neither advance ness nor keep awareness about their traditional culture. They must have to get advance education, communication, technology and new life style but care of traditional culture is just too for keep their own identity. Youth of other tribes of this area (Bhotia and Jaunsari etc) are aggressive more than Tharu Youth. Many Bhotia and Jaunsari youths are working as administrative officers, professors, Doctors, Engineers and Advocates etc. They are very advanced and also careful about their traditional culture. However, Tharu youth are very poor in this matter. Generally Tharu youth do not like to go inadvanced cities for education. Nepalese Tharu youth are more aware and advanced than Indian Tharu youth because there are many youth organizations and groups are active in

Nepalese Tharu community for development and extension ofeducation, technology, health care etc. The Tharu community has its amazing culture with many specialties but it is bad luck of this community that its own new generations especially highly educated youth are not so aware for care it. Some Tharus are trying to keep their own socio-cultural values but they are not success in their target till now. Large number ofin their life, so they are ignoring their own cultural values. It is true that Tharu youth want change but it has not this meaning that they are very aggressive or advanced. They are only following other communities for a new life style. We can say in other words that the process of Sanskirtization is still running in this community. Tharu youth are playing very creative role in their community but they are not connected with main stream of development even some youth are trying to get higher education and advanced technology but in few number. Maximum Tharu youth are trying to accept other culture only for leaving their old own culture. There are many Religious missionaries are working for conversion of Tharus in this area, that is why some Tharus have converted in other religions. The Tharu youth are ignoring their own culture and losing traditional values. Neither have they got advance ness nor do they aware about their traditional culture. *Tharu Rana Parishad* (Council of Tharu Community) is a main organization of this community which is active in this socio-cultural movement in this area. This organization is trying to keep traditional culture of Tharus. But this organization is not so success in its main goals. The Tharu community is one of them Indian tribes which have not more and enough awareness about education. There are many educational institutes and organizations are working in Tharu area but percentage of educated people is very low in Tharu community. Most Tharu students want a job early that is why they are not interesting in post graduate level education. Graduation level is enough for a general job so they want only eligibility for a general job. Only those students are studying in post graduation level which want any special job or did not get a job still. Some students are taking education in post graduate level for doctorate degree but number of these, students is few. There are only 2 students (1 male & 1female) want to do research for Ph.D. level. There is only one Tharu man (Prem Singh Rana) has Ph.D. Degree in this area. At present he is Lecturer in college.

We have been said that also that Tharu Community issuffering form social changes and their youth are playing active role in this process. Youths are refusing many old social rules and customs. In this era new Tharu generation do not like and support early age marriage, leadership& dictatorship of old aged people, Joint family System, Traditional typical Costumes, marriage with elder women. Tribal religious activities& Things etc. traditional

Social values have lost their importance and new trends are still running. There is an interesting and amazing system of mutual friendship called as *Mitai* popular in Tharus community. In this system friends treat together as real brothers or sisters and they every help and support together without any formality. Male friend called as *Dilwar* or *Meet* and female Called as *Sangan*. This system shows the human social values and feeling of the Tharus but at present this system is losing its importance like many other old systems. The researcher has selected the kinds of literature for review and determines the purpose for which she has studies them, i.e. to gain background knowledge of the research topic, to identify the concepts relating to it, to know the work already done on the subject it identity appropriate methodology and research techniques of collecting data relevant to the study etc. The literature review started with the selection of the topic for research, continued through the various stages of the research process and ended with report writing The first researcher of earlier period about the tharu tribe available to us as published texts, were written by the Britishers, these are illustrated by the Gazetteers of India like imperial North Western province of Oudh and of Bengal or the tribes and castes series or in books of the same kind. They are giving a general picture of tharus living in North India, and racial affinity.

Medicinal plant used in Ayurvedic Medicine of Sohewa forest

Botanical name/ Family	Local name/Life form	Phenology	Chemistry	Parts used	Uses
Rauvolfia serpentina /Apocynaceae	Sarpagandha/Shrub Dhaldhaliya(Th)	May/ August	Alkaloids, Favonoids, Yohimbine, Serpentine, Glucosides,	Leaf & Root	Dried root powder is given orally to reduce high blood pressure. Root infusion is given orally in intestinal disorders.
Helminthostacehys Zeylanica/ Ophioglossaceae	Tukod-langit/ Herb Kamraj(Th)	July/ August	Four flavonoids –ugonins A, B. C, & D isolated from rhizome.	Leaf	The tender leaves are cooked and eaten as vegetables.
Asparagus racemosus/ Liliaceae	Musli/ Herb Santawar(Th)	May/ December	Asparanin C,D Asparoside C,D,& B-Sitosterol	Root	Root powder is given orally to urinary troubles.
Malva parviflora /Malvaceae	Sonchal/ Herb Bariyara (Th)	December/April	Triglycerides, Lipid Peroxidation, Glycogen, Superoxide dismutase, Glutathione	Seed	Decoction of seed is given orally in cough and bronchitis
Eclipta prostrata/ Asteraceae	Bhrinraaj , Bhangra, Bhringijhar/ Herb Bhangraila, Bhangaraiya (Th)	July/ March	Demethylwedelolactone, Polypeptide, Steroides, Polyacetylenes, Flavonoides	Whole plant, leaf	Plant paste is applied on cut, wounds, skin diseases, and pimples.
Equisetum arvense/ Equisetaceae	Horsetail/ Herb Harjor(Th)	April/July	Hexahydrofarnesyl Acetone, Trans-phytol, Thymol	Whole plant, Leaf	One cup aqueous extract of fresh plt is taken thrice a day for 15 day to treat liver disease.
Grewia hirsute/Malvaceae	Kukurbicha/Herb Dapher(Th)	June/July	b-sittosterol, Amyrin Isoleucine, Lysine Glutanic Acid	Fruits	The ripen fruits are edible.
Leucus cephalotes /Laminace	Deldona/Herb Goma(Th)	April/ September	Sitosterol, Tricin Cosmosin,7-Oxositosterol, alpha	Leaf	Plant decoction is used for malaria, headache, eye complaints.

			Hydroxyflovoninn, Thymol		
Achyranthes aspera/Amaranthaceae	Ulta chirchiri, Latjira /Herb Datiwan(Th)	September/January	Betaine, Achyranthine, Ecadysteres, Achyranthes A,B,C,D	Entire plant	Whole plant is taken with warm water for Pneumonia.
Abutilon indicum/ Malvaceae	Kanghi/Shrub Kanghe(Th)	September/ November	Amino acid, Glucose, fructose	Leaf/Root	Leaf and root juice are taken orally to treat dental problem.
Calotropis gigantean/ Asclepiadaceae	Madar/Herb Madar(Th)	January/ April	Cardiac glycosides, Fatty acides, Calcium oxalate	Flower/ Root	Root paste applied on boils, Pimples & skin disease.
Solanum nigrum/ Solanaceae	Makoi/Herb Makoi(Th)	Most part of the year	Fatty acid,isolated from seeds contained palmitic ,stearic,oleic and linoleic acid.	Seeds, Leaf & Root	Leaf decoction is given to women twice a day in delivery fever.
Ipomoea carnea(fistulosa) Convolvulaceae	Mart&Choisy/Herb Behaya(Th)	June/ August	Polyhydroxylated Alkaloids,N-methyl-Trans,4-hydroxy I-proline	Latex of leaf and tender shoot	Shoot are applied antiseptic on wounds b/w toes in rainy seasons.
Dhatura innoxia/Solanaceae	Dhatura/shrub Datura(Th)	July/ December	Alkaloid,tropin, Scopine pseudotropine, scopoline	Milky juice & Seeds	Seeds paste along with Koina oil is used in arthritis.
Argemone maxicana/ Papaveraece	Shialkanta, Pelli kateli/Herb Bharbhanda(Th)	July/ October	Alkaloids, Berberine, Protopine, Levoleic Acid, Optisine	Milky juice and Leaves Root & seeds	Root paste is applied on skin diseses and flatulence.

Ayurvedic Medicinal plant used by Kathuria &Dangauria Tharus of Sohelwa Forest, Balrampur U.P. India

Rauvolfia serpentina (Apocynaceae)

Climatic Effect- It grows luxuriantly well where the rainfall is 2500 or more. The areas having in more equable climatic variation seem to be more suited than the areas having higher climatic variations. It prefer soil with plenty of humus and rich nitrogenous and organic matter with good drainage. Harvesting Fibers-Root yield at different ages and climate has shown that 18 months and crop produce maximum root yield. During harvest the root length ranges b/w 40-90cm and the thin roots are also collected. After digging the root are cleaned washed and cut in 12-15 pices per drying and storage.

Helminthostachys zeylanica (ophioglossaceae)

Climatic Effect-It is well reported in month of middle June to late September in altitude of 235-275 meter. The plant measure a height to 10.5-2.0 feet long. Only one on fold is one in one season so that it is monophyllous. Harvesting Fibers-This plant grows in wet season of June to September. It grows best in light brownish gray type soil and sandy loam soil texture with a pH of 6.5. It usually grows quickly during rainy season. For, cultivation, purposes the root should harvested during the wet season in July-August.

Asparagus racemosusc (Liliaceae)

Climatic Effect-The crop survives under varied agro-climatic condition ranging from temperate to tropical hill regions. It can be grown in moderate hills and medium elevation of western ghat hills under condition where the elevation is b/w 800 to 1,500 meters. It tolerates drought as well as temperature. Harvesting Fibers-Shatavari can be cultivated on soil for dry land management. The roots come to maturity in about 12-14monthes after planting, depending upon till and climatic condition.

Malva paryiflora(Malvaceae)

Climatic Effects

Malva parviflora has successfully adapted to a wide range of distinct environments. The species is able to thrive in areas that vary in annual rainfall from 315 to 496 mm, maximum average temperatures from 21.9 to 26.8^{o}C and minimum average temperatures from 9 to 13.6^{o}C. However, there was limited broad scale geoclinal differentiation and low genetic variation within the common garden study with only length of time between sowing and flowering differing between populations. Harvesting Fibers- Available most of the year.

Harvest the young shoots. It is normally cooked with other greens and used in salad, pie or casserole.

Eclipta prostrate (Asteraceae)

Climatic Effect

The plant is found to grow wild in a variety of soils viz, sandy to clay soil. Vary common on damp wastelands, low waterlogged areas, roadsides, paddy and other crop fields, preferably in warm climate. Harvesting Fibers-Bhangra plant is hervesting of 3 months; the best time and stage for harvesting is 90 days after transplanting or at early flowering stage.

Equisetum arvense (Equisetaceae)

Climatic Effects- Harjor is adapted to dry conditions because it has a silica-coated cuticle, sunken stomata, reduced leaves and an assimilating stem, while the rhizomes bear hydromorphic structures. The hollow rhizomes facilitate the passage of air far down into the soil and serve as routes for the uptake of water. The roots of E. arvense also associate with several strains of nitrogen-fixing bacteria in a nitrogen-free mineral nutrient solution. Harvesting Fibers- You can use gloves or scissors to harvest. Once cooked or dried, nettles completely lose their sting. They are most potent when gathered in early spring before flowering, usually from March-May. To dry nettles, bundle them and hang them upside down in a dark dry place, or place them in a paper bag and rotate them every few days until dry. Use gloves when you strip the leaves off the stem. Store in a dry place like a glass jar, away from sunlight. In late summer or early fall the stems are gathered and made into a strong fiber.

Grewia hirsute (Malvaceae)

Climatic Effect-The plant is not only adapted to high temp.and dry condition, but his deep root which stabilize sand dunes.The plants have an aggressive root system which hold fast to the soil protecting it from water and wind erosion. Harvesting Fibers-The stem are cut in the months of march and kept for cold water retting which sun light after 1 monthes.Finally the barkof stem is extracted and yellow coloured from the bark.The fibers are sun dried and stored in a dry and then made into ropes.

Leucus cephalotes (Laminaceae)

Climatic Effects-Goma is generally moist and sandy place. Hot and dry secondary condision. Harvesting fibers-Leucus is found in cultivated field as a weed especially after a period of

rain.It is collected for use a leafy vegetable in rural areas. Goma is harvested itself for medicinal uses and is readily available in market. It is most common historical uses has been as a tratment for snakebite. And it is harvesting in use to organic forming.

Achyranthus aspera (Amaranthaceae)

Climatic Effects-Latjira is perennial growing to 0.9m and light,loamy and clay soils.Sutable pH acid neutral and basic soil. It can grow semi-shade or no shade.It prefer moist condition. Harvesting Fibers-Leaves - cooked. Used as a spinach substitute. Seed - cooked. The seeds are said to be eaten with milk in order to check hunger without loss of body weight. The ash from the burnt plant, often mixed with mustard oil and a pinch of salt, is used as a tooth powder for cleaning teeth. It is believed to relieve pyorrhea and toothache.

Abution indicum (Malvaceae)

Climatic effect-The species occurs in a number of tropical and subtropical zones. An example occurrence is within parts of the Great Barrier Reef islands of the Coral Sea. Harvesting Fibers- The mature stem are selected from healthy growing plant. The stem is first retted in water for two weeks, the fibers are separated manually by hand sun dried and stored in dry place.

Calotropis gigantean (Asclepiadaceae)

Climatic effect- The climatic in this region is charecterised as sami-arid. The mean anual temparature in this region is 27.4 C and the mean anual fall is 30 C and mean relative humidity are 674 mm and 68.9 respectivily. Harvesting Fibers- Roots, leaves and bark of young and older plants alike are harvested throughout the year according to need and availability. In some cases, plants are completely uprooted after which the roots are separated from the rest of the plant and both parts are separately processed. In order to obtain the seed floss, ripe but green and unopened fruits are picked and opened. When the seeds are rubbed lightly against the palm of the hand, they fall off readily from the floss. Stem bark is peeled by hand or mechanically in processing plants to obtain long strips.

Solanum nigram (Solanaceae)

Climatic Effects-Very tolerant of dry condition.Grows well with clover. Sutable for- light (sandy), medium (loamy) and heavy (clay) soils and prefers well-drained soil. Suitable pH: acid, neutral and basic (alkaline) soils. It cannot grow in the shade. It prefers dry or moist soil. Harvesting Fibers- It is harvested in the autumn when both flowers and fruit are upon the

plant, and is dried for later use. Use with caution, see notes above on toxicity. The leaves, stems and roots are used externally as a poultice; wash etc in the treatment of cancerous sores, boils, leucoderma and wounds. Extracts of the plant are analgesic, antispasmodic, and anti-inflammatory and vasodilaton. The plant has been used in the manufacture of locally analgesic ointments and the juice of the fruit has been used as an analgesic for toothaches.

Ipomoea carnea (Convolvalaceae)

Climatic Effects- Behaya is tropical region, it is flowering, ever green, serb with height ranging from 1.1 to 3 m. it is generally grow near canal, pond and water region and nearby railway station and temperature should be 25 to 40^{o}C. Havesting fiver- It is generally used after dried and it used as fuel to cook food.

Dhatura innoxia (solanceae)

Climatic effect- *Datura* species can change size of plant, leaf, and flowers, all depending on location. The same species, when growing in a half-shady, damp location can develop into a flowering bush half as tall as an adult human of average height, but when growing in a very dry location, will only grow into a thin plant not much more than ankle-high, with tiny flowers and a few miniature leaves. Harvesting fibers-*Datura* species are usually planted annually from the seed produced in the spiny pods, but with care, plants can be overwintered. Most species are suited to being planted outside or in containers. As a rule, they need warm, sunny places and soil that will keep their roots dry.

Argemona maxicana (papaveraceae)

Climatic effect- Plant is adopts to various climate as well. From personal experience this plant grow in a very simmilar faishon to warm wood. Harversting- The desired plant parts of Argemone mexicana are **harvested** whenever the need arises.

(Rauvolfia serpentine)

(Helminthostachys zeylanica)

(Asparagus Racemosus)

Malva paryiflora

Eclipta prostrate (Asteraceae)

Equisetum arvense (Equisetaceae)

Grewia hirsuta(Malvaceae)

Leucus cephalotes(Laminaceae)

Abutilon indicum (Mavaceae)

Achyranthus aspera (Amaranthaceae)

Calotropis gigantean (Asclepiadaceae)

Solanum nigrum (Solanaceae)

Ipomoea carnea (Convolvulaceae)

Dhatur innoxia (solanaceae)

Argemona Maxicana (Papavaece)

Research Objectives and Approaches

(i) To prepare inventory of medicinal plants of Sohelwa forest. (ii) To document the detailed information on plants used by tribals of study area. (iii) Find out new sources of medicinally or economically important taxa. (iv) Relocation of rare medicinal plants by undertaking intensive field explorations. (v) To evaluate existing threats to medicinal plants of Sohelwa forest and identify sustainable conservation measures.

Approaches

The above description of the types of research brings to light the fact that there are two basic approaches to research, viz., *quantitative approach* and the *qualitative approach*. The former involves the generation of data in quantitative form which can be subjected to rigorous

quantitative analysis in a formal and rigid fashion. This approach can be further sub-classified into *inferential*, *experimental* and *simulation approaches* to research. *Qualitative approach* to research is concerned with subjective assessment of attitudes, opinions and behavior. Research in such a situation is a function of researcher's insights and impressions. Such an approach to research generates results either in non-quantitative form or in the form which are not subjected to rigorous quantitative analysis. Generally, the techniques of focus group interviews, projective techniques and depth interviews are used. All these are explained at length in chapters that follow.

REFERENCES

1. Harshberger, J.W. Some new ideas, 1895. Philadelph. Evening Telegraph.
2. Jain, S.K. Medicinal plants, 1968, National Book Trust, India.
3. Jain, S.K. and R. Mitra. Ethnobotany in India: Retrospect and Prospect, 1990. In S.K. Jain (Ed.) Contribution to Ethnobotany of India: 1-17. Scientific Publishers, Jodhpur.
4. Jain, S.K. and R.R. Rao, A Hand Book of Field and Herbarium Methods, 1977. Today & Tomorrows Printers & Publishers, New Delhi.
5. Jain, S.K. Detailed Proforma of Field work in Ethnobotany 1988, 2nd Training Course in Ethnobotany; 10-18 March, Lucknow.
6. Jain, S.K. Dictionary of Indian Folkmedicine and Ethnobotany. Deep Pub., New Delhi.
7. Jain, S.K. et al. Bibliography of Ethnobotany 1984; Bot. Survey of India, Howrah.
8. Jain, S.K. Ethnobotany. Interdisciplinary Science Reviews, 1986; 2(3): 285-292.
9. Jain, S.K. Ethnobotany: Its scope and study Indian, Museum Bull., 1967; 2(1): 39-43.
10. Joseph K.M., Khare A.K. & Awasthi A., Ethnobotanical studies on the Tharu tribe at Dudhwa Tiger Reserve- I Ethnomedicinal plants. Proceeding Biosci. Adv. Impact Relevance, 2003; 39-42.
11. Kanjilal P.C. Forest flora of Pilibhit, Oudh, Gorakhpur and Bundelkhand.1933; Govt. Printing Press, Allahabad.
12. Kumar A., Pandey V.C. & Tewari D.D., Documentation and determination of consensus about phytotherapeutic veterinary practices among the Tharu tribal community of Uttar Pradesh, India. Trop. Animal Health Prod., 2012; 44: 863-872.
13. Kumar A., Tewari D.D. & Tewari J.P. Ethnomedicinal knowledge among Tharu tribe of Devipatan division. Indian J. Tradit. Knowledge, 2006; 5: 310-313.

14. Kumar Akhilesh, D.D.Tewari&Y.N.Panday Indigenous and Traditional herbal medicines from Gonda district of Tarai belt of North- Eastern U.P., India. J. Natcon, 2003; 15(1): 261-268.
15. Kumar Akhilesh, D.D.Tewari, R.Sharma & V.C.Panday. Practices of folk phytoveterinary in Devipatan Division, U.P., India. J. Natcon, 2005; 17(1): 153-161.
16. Kumar Rajesh, M.K. Singh & A.K. Bharati. Ethnobotany of Tharus of Dudhwa National Park, India. Mintage Jour of Pharmaceutical and Medical Science, 2013: 2(1): 6-11.
17. Maheshwari J.K. Current Trends and Future perspectives in Ethnobotanical research. J. Liv. World, 1995; 2(2): 1.
18. Maheshwari J.K., Singh K.K. & Saha S., Ethnobotany uses of plants by the Tharus of Kheri district, U.P., Bull. Medico – ethnobot. Res., 1980; 1: 318- 337.
19. Maheshwari J.K., Singh K.K. and Saha S., The Ethnobotany of the Tharus of Kheri district Uttar Pradesh, National Botanical Research Institute, Lucknow, India, 1981.
20. Maheshwari, J.K. Ethnobotany in India, 1992; (Ed) J.K. Maheshwari Scientific Publishers, Jodhpur.
21. Maheshwari, J.K. Ethnobotany in south Asia, 1996; (Ed) J.K. Maheshwari, Scientific Publishers, Jodhpur.