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Ethanobotanical survey of some medicinal plants used by Tribals of Lolab valley of Distric Kupwara, Jammu & Kashmir

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ABSTRACT:-

The current loss of medicinal plants in the country due to natural and anthropogenic factors links with the missing of valuable traditional knowledge associated with the plants. This strong link suggests a need to conduct ethno botanical research and to document the medicinal plants and the associated traditional knowledge. Carved out from the erstwhile Kupwara district is full of natural beauty with thick forests, rich in important medicinal plants. The people of the region have always used the medicinal plants for the treatment of various diseases and are still dependent on plants for various other purposes. Data regarding the traditional medicinal uses of plants was collected by means of questionnaire method, discussions with local knowledgeable persons, herbal healers called "*Bhoris*", tribal's and by direct observation during field trips. As a result of this study conducted, medicinal plant species belonging to equal number of genera and different families were found to be used by the local people as effective remedies in their day to day life to cure various human and livestock ailments.

Keywords: *Medicinal plants, Traditional medicine, Survey, Ethano-botany.*

INTRODUCTION:-

Man has always made use of flora to alleviate suffering and diseases. 80% of the world population rely on traditional health care system. The system of ethno-medicine is safe and is a low cost therapy for treating various ailments. As elsewhere in India too, the medicinal use of plants has been practiced since ancient times by various rural and tribal communities through the system of Ayurveda, Siddha & Unani.

Indigenous knowledge is as old as human civilization but the term "ETHNOBOTANY" was first applied by an American Botanist John Harshberger in 1896, to the study of plants used by primitive and aboriginal people (Harshberger 1989). Later on Volney H. Jones (1941) and Richard

Ford (1978) redefined ethnobotany using modern ecological terms, from which ethnobotany was described as "the study of direct interaction between the human and plant population.

Medicinal plants are the "backbone" of traditional medicine. The use of traditional medicine and medicinal plants in most developing countries, as the basis for the maintenance of good health, has been widely observed by UNESCO, 1966. During the past decade, traditional systems of medicine have become a topic of global importance. Current estimates suggest that n many developing countries, a large proportion of the population relies heavily on traditional practitioners and medicinal plants to meet primary health care needs. Although modern medicine may be available in these countries, herbal medicines have often maintained popularity for historical and cultural reasons.

Medicine in several developing countries, using local traditions and beliefs, is still the mainstay of health care. As defined by WHO, health is a state of complete physical mental and social well being and not merely the absence of disease or infirmity. Medicinal plants can make an important contribution to the WHO goal to ensure, by the year 2000, that all people worldwide will lead a sustainable socioeconomic productive life. The WHO in 1987 stated that Utilization of medicinal plants is one of the great benefits to the health care system as peoples who practice it are independent since they treat themselves without relying on outside institutions. The work on ethno-medicinal aspects of Jammu & Kashmir has been undertaken earlier (Dar *et al*., 1984; Kaphi *et al*., 1993; Singh 1995., Khan *et al*., 2004; Abdul Rashid *et al*., 2008; Pant and Verma 2008; Iqbal *et al*., Tantray *et al*., Mukesh *et al*., Malik *et al*., 2011).

The peoples of District Kupwara not only use various plants in treating several diseases they suffer from in their life, they also depend on plant resources for fuel, fodder, and household materials to a great extent (Singh *et al* 2008). We are witnessing a sharp decrease in the biological species all across the globe due to industrialization, overpopulation, habitat destruction, deforestation, overpopulation, pollution and global warming etc. Decline in population of medicinal plants is due to over exploitation and changing land use pattern (Singh *et al*). At present we do not properly value the many benefits of our natural resources mainly plants, so our activities tend to deplete and degrade them, even though they are essential for ours survival and well-being. The medicinal plants are facing troubles due to anthropological activities, so medicinal plant surveys are helpful to know about the status of particular plants in a particular area. Therefore a survey was conducted to explore document and conserve the knowledge which is lying only in the mind of traditional healers as they are the real custodians of traditional medicines.

STUDY AREA:-

The study area of Lolab valley is in north of Kashmir and is cup shaped starting from Zangli neck surrounded with lush green forests, majestic and snow capped mountains having unparalleled scenic beauty and is popularly called "Land of love and beauty". It is situated between geographical coordinates of 340 25' and 340 42' N latitude and 74015' and 740 32' E longitude (**Fig. 3.1**). The valley is 15 miles long and 3 miles wide

and traversed by stream Lahwal, which flows down from the surrounding serpentine hills. Lolab has many pasture lands and a rich forest cover. Lolab valley has its own charm and is an eye-catching, small, compact region. It has green rice fields, fruit orchards and beautiful meadows. Presently, it forms a part of Kupwara district. The district Kupwara is one of the remotest and backward districts of the Kashmir valley, which is situated at a distance of 90 km northwest of the Srinagar, the state headquarters. The geomorphology of this valley which could be no different from Kashmir valley proper, the valley drains out through a narrow gorge at Kupwara, which is the entry to the Lolab valley proper and the beginning of the Pohru river in its downward flow to meet the river Jhelum at Doabgah. The valley has comparatively low hills on its eastern and southern sides. On its northern side it is separated from the Kishenganga valley by the uplands of Gurez and Matsil which form the watersheds of the Kishenganga River. On its northwestern side, it is separated from the watersheds of the Kehmil nullah by the Haihama ridge. The Lolab valley, representing all aspects of the compass, varies in elevation from about 1661 m to 3846 m in its north. There are some famous tourist places Chandigam, Keran Valley, Machil, *etc*. All these places have the facilities of rest houses for the visitors. The other areas of the districts from east to west and transverse through Keran and Teetival and finally confluences with river Jhelum at Domel, across the seize fire line between India and Pakistan. It has only two small urban units namely. Handwara and Kupwara comprisingpopulation of 2,12,463 and 3,95,159 parsons, respectively The area is also rich in some mineral resources as 400 million tons of limestone has been discovered at Trehgam of Kupwara district. 7 million tons of lignite has been eliminated at Nachhama. A huge marble deposit has been discovered in the interior parts of Kupwara district.

LOCATION MAP AND DISTRIBUTION OF AREA:-

The two main sites of Lolab valley namely North Lolab, and South Lolab constitute the Lolab valley and area under each region is as under:

- North Lolab = 21823 Ha.
- South Lolab = 11993 Ha.

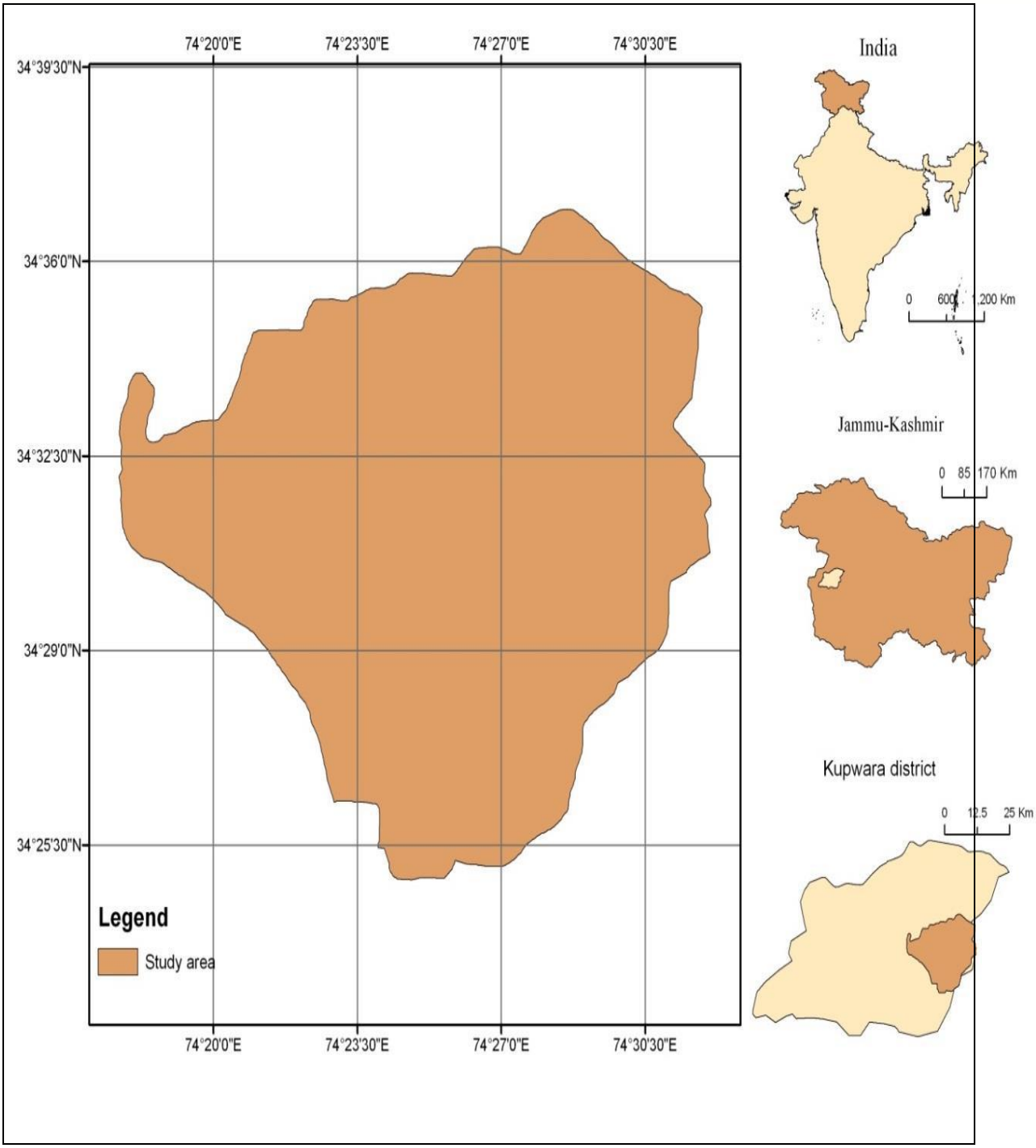

Figure 3.1: Location map of Lolab valley

METHODOLOGY:-

During this study field trips were carried out to the area of study during April to October 2018. Appropriate methodology was used to obtain the information about the medicinal use of different plants from the local population. The information was collected from the people by using questionnaire and interviews in local language. The local herbal healers (Hakims) and tribal people by face to face interaction were mostly consulted during the study who was the real users and they have a lot of information about the traditional use of plants. A total of 60 participants were interviewed of which maximum were in between 30 to 70 years of age. Some people don't want to share their knowledge because of ongoing tension in the border area as they don't know us. But after regular visits, humble requests, they share their valuable information that how they use plants and their products to cure their ailments. The information given by these people was verified by confirming it from 5 to 6 people of different spots. One thing is observed during the survey that one plant has much more medicinal uses as it is used to cure more than one ailment in that area which is under study.

The useful information of plants were recorded in field books and cross checked with expert persons of the locality with Hakims. The specimens of plants were not collected during field trips instead they are photographed at their natural habitat with the help of digital camera keeping in view the conservation of biological diversity. In some cases samples were bought in order to get the information. The photographs were viewed in front of Hakims in order to fetch local name of plants. The plant photographs were identified with the help of Sharna and Kachron 1983; Swami and Gupta; Bhellum and Magotra, 2012; Malik etal., 2010 and Dar et al 2014. The botanical names of the plant species were updated according to the plant list available at WWW. The plant list. Org.

Result :-

S.No	Botanical Name, Family	Vernacular name	Part Used	Uses
01	*Adiantum cappis veneris* (Adiantacea)	Gautheer	Whole plant	Paste of whole plant made with ghee applied on hair as tonic. Extract of plant taken for stomach pain and as expectorant.
02	*Arisaema jacquemontii* (Aracacea)	Hapet Gogej	Rhizome/ tuber	For muscle strength, massage of grinded rhizome mixed with brasica oil is done. For boils dried root or tuber is powdered, mixed with oil and applied on the affected part.
03	*Anaphalis nephguna* (Asteraceae)	Daderi Dawa	Whole plant	The herb is dried and crushed into powder and mixed with ghee or oil to make a paste and is

				applied on on affected portions externally.
04	*Abrus precatorius* (Fabaceae)	Ratti	Leaves/ Roots/Seeds	Leaves are grounded with lime and applied on affected area. Paste of root is administered to cure stomach pain.
05	*Achillea millifolium* (Asteraceae)	Sultani booti	Whole plant	A decoction of whole plant is employed for kidney disorders.
06	*Artemisia tortulosum* (Araceae)	Saanp ki khumb, Maakh	Corm/ Seeds	Corm and leaves decoction taken for snake bite and scorpion sting.
07	*Artemisia absinthium* (Asteracea)	Tethwan	Leaves	For abdominal pain extract of whole plant is taken in small doses and also used for chronic fever and gout.
08	*Achyranthes aspera* (Amaranthaceae)	Phut kanda	Root, Leaves	Root powder taken with glass of milk for paralysis. Extract leaf juice taken with glass of water for abdominal pain.
09	*Acorus colomus* (Acoraceae)	Vai	Whole plant	Crushed plant made into paste and applied externally for various skin diseases. Decoction of roots taken in small doses for stomach troubles.
10	*Abutilion indicum* (Malvacea)	Sonpatri	Leaves	Leaves are powdered added with wheat flour and a bread is prepared which is given to patient once aday having uterus problems.
11	*Ajuga bracteosa* (Lamiaceae)	Jainad am	Leaves	A poultice made from the leaves is applied to burns for rapid healing.
12	*Atropa acuminate* (Solanaceae)	Brand	Roots/ leaves	The root is dried and powdered and mixed with ghee to make paste and id applied on effected portions externally.
13	*Arnebia benthamii* (Borangenaceae)	Kahazaban	Whole plant	The whole plant is boiled in water and the boiled water is used for pregnant ladies for bathing.
14	*Berberis lycium* (Berberidaceae)	Kawdach	Root	The plant is in spleenic troubles, febrifuge and intestinal astringent. It is also used in chronic diarrhea.
15	*Brassica rapa* (Brasicaceae)	Tilgogal	Seeds	Seed oil is used for abdominal pain. For healthy hair massage seed oil is used. For increasing

				digestion, seeds are eaten raw.
16	*Bergenia ligulata* (Saxifragaceae)	Pulfort	Leaves	For wounds, paste of fresh leaves is applied. For stomach ache and internal injury, powder of dried roots is taken with milk or water.
17	*Betula utilis* (Betulaceae)	Burza	Bark	Bark obtained from trees is used to cure leprosy, peeled sheets are used to decoraye homes.
18	*Cichorium intybus* (Asteraceae)	Junglehund / poshhund	Whole plant	The whole plant is boiled in water and crushed, fried in mustard oil mixed with haldi and salt and is applied on wounds to cure them.
19	*Cannabis sativus* (cannabinaceae)	Bhang	Leaves	For diarrhoea extract of leaves is taken. For menstrual problems, fine powder of leaves mixed with eggs is made into omelet and taken.
20	*Cedrus deodara* (Pinaceae)	Deodar	Wood	Oil of wood is used for toothache, applied to skin to cure allergy, also used for fuel wood.
21	*Coriandrum sativum* (Apiaceae)	Dhaniwal	Whole plant	Water extract of herb mixed with honey is used to cure the hair fall, also used as condiment in Kashmiri wazawan.
22	*Datura stremonium* (Solinaceae)	Datur	Leaves	For asthma, leaves are burnt and smoke inhaled. For dandruff extract of whole plant is applied on hair. For rematic pain seed powder is mixed with ghee and applied on affected part.
23	*Euphorbia wallichii* (Euphorbiaceae)	Guri dud	Whole plant	Decoction made from the leaves and is applied to warts and skin infection.
24	*Fritillaria roylei* (liliaceae)	Sheethkar	Bulb	The bulb are crushed and made powder which is applied on affected portions externally.
25	*Iris napalensis* (Iridaceae)	Mazer mund	Root stock	The root is dried, crushed to make powder, the powder and ghee is mixed to make paste and the powder is taken orally for swelling in throat
26	*Ficus carica* (Moraceae)	Anjeer	Stem and leaves	The milky latex is obtained from stem and leaves and is applied on warts.
27	*Foeniculum vulgare* (Apiaceae)	Badiyan	Seeds	The seeds are grounded to make powder or used as such, the powder is mixed with warm water for acidity, cold and cough.
28	*Juglans regia* (Juglandaceae)	Doon	Leaves	The leaves are boiled in water and are used to cure frost (feet's) bite in children.
29	*Lamium album*	Zakhmi dawa)	Whole plant	The herb is dried and powdered. The powder is

	(Lamiaceae)			mixed with oil to make paste, paste is applied externally to effected portions.
30	*Lavatera cashmeriana* (Malvaceae)	Sazposh	Leaf and flower	Used to cure skin irritation in pregnant women.
31	*Nepeta cataria* (Lamiaceae)	Gandsoi	Leaves	A paste is made from leaves which bare applied on wounds for immediate healing.
32	*Parrotiopsis* jacquemontiana (Amamelidaceae)	Poh/ poush	Stem and leaf	Oil is extracted from the stem which is applied on affected area. Leaves are crushed and applied on wounds for 2 to 3 days.
33	*Papaver somniferum* (Papaveraceae)	Khash-khash	Leaves/ seeds	For pain dried milk of whole plant is taken. For cancer, grinded seed powder or oil of seeds is taken in small amounts.
34	*Portulaceae oleraceae* (Portulaceae)	Nuner	Whole plant	For liver inflammation, it is eatyen as vegetable. For cough extract of whole plant is taken. For burns crushed plant is taken on affected area
35	*Pinus wallichiana* (Pinaceae)	Kayer	Stem	The stem of the tree produces latex commonly called as 'KANGUL' that is applied on cracked heels for heeling. The latex is also applied on wouynds for 2 to 3 days , it helps in evacuation of pus and cures wounds.
36	*Rumex acetosa* (Fabaceae)	Abej	Whole plant	For stomach problems, whole plant is eaten as vegetable. For sting of nettles , leaves are rubbed on affected part to get relief.
37	*Robinia pseudoacacia*(Fabaceae)	Kikar	Leaves	The leaves are crushed and made paste, paste is applied externally.
38	*Rosa damascene* (Rosaceae)	Jangle-Gulab	Flower	An extract obtained from crushed flowers is used to cure skin diseases
39	*Salvia sclarea* (Lamiaceae)	Buder tuned	Whole plant	The whole plant is crushed into powder, which is mixed with ghee or oil to make paste, paste is applied externally.
40	*Sorghum halepense* (Poaceae)	Durham	Root	The roots are dried and then crushed into powder, the powder and oil is mixed to make paste, paste is applied externally.
41	*Urtica dioica*	Soi	Root	Roots made into paste in oil are applied to heal

	(Urticaceae)			minor wounds.

DISCUSSIONS:-

The present study shows that the Lolab valley of Kupwara District is rich in useful medicinal plants. A total of 42 medicinally important plant species belonging to 29 different families were reported during the study. The plants are arranged in alphabetical order. During present survey, ethno medicinal data as gathered by consulting people of different ethnic groups such as Gujjars, Pahari, Pastus, Bakerwals and also some knowledgeable persons of the plains. Gujjars, Pahari and Pastus are the permanent settlers of the study area. While the bakerwals constitute nomadic tribe who lived lonely and tough life in the high altitude meadows of the study area. (Lolab,Kalarooch,Divar,Machil,Gagal). Actually the bakerwals belong to the Jammu division of J&K, they visit the study area every year in the month of may. They take their livestock animals, above the tree line to graze in the lush meadows. During the summer, they move from ne meadow to another and ultimately leave the study area. There is lack of health care system, the bakerwals are wholly and solly dependent on the plants. Both of these ethnic groups have their own knowledge of tradition and herbal medicines.

During the present study, the primary source of medicines was wild herbs, wild shrubs, cultivated herbs, wild trees, cultivated trees. One of the important thing has been noticed in the study area that people of the study area had a belief on *Fritillaria roylei* that it can cure 80 diseases so that local name of the herb has been assigned as SHEETHKHAR. It has been observed during survey that the herb is most important medicinal plant of the area. The observation of present study showed that traditional medicine play significant role among the tribal's of Kupwara.

CONCLUSION:-

The realization of the significance of biodiversity in human welfare and in environment and developmental context during the earth summit (1992) has necessitated mandatory assessment of plant, animal and microbial resources of any region of the world. Biodiversity is depleting at an alarming rate and restoration of the lost biodiversity is a big task at present time, hence efforts need to be made to conserve the biological diversity in a sustainable manner. In Lolab valley of Kupwara district, the use of medicinal plants against different ailments play a significant role in meeting the primary health care need, keeping in view the high cost and side effects of allopathic medicine. This valley is fairly rich not only in medicinal plant species but also has deeply rooted traditional knowledge among the people. Traditional uses of medicinal plant as drugs will increase the local industry on one hand and minimize the expenditure incurred on the purchase on foreign drugs on the other. It can also provide direct or indirect employment to a large number of people. This is only possible if these resources are used in sustainable manner. But in the present study a number of factors mentioned earlier were found responsible for depleting of these medicinal plants and therefore research and conservation efforts should be focused on these resources of the area so that in future, the coming generation could benefit from these

precious plants that are a real gift to mankind. Besides, long term conservation of the threatened plant species should be initiated by involving the local people through creating awareness among them as they are the best judges of the area.

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