ETHNOBOTANICAL STUDY OF GALLIYAT FOR BOTANICAL DEMOGRAPHY AND BIO-ECOLOGICAL DIVERSIFICATION

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ABSTRACT

The present research work was based on the results of an enthnobotanical research project conducted in the Galliyat areas of NWFP, Province (Pakistan) during July 2003-March 2004. The region is mountainous with pine forests. Botanists have rarely studied the remote villages of the area, hence ethnobotanical information is quite meager. The local people of the area have always used surrounding natural resources that is wild plants for medicinal purposes and have for a long time dependent on the surrounding plant sources for their food, shelter, fodder, timber, fuel and health care. The present study mainly focus on the information regarding indigenous uses of plants for medicinal as well as other purposes by the native people of the area The ethnobotanical data of 40 plant species belonging to 37 genera and 26 families, during summer and winter season were collected. Among them the two families belong to gymnosperms, two families of pteridophytes, one family of monocot and 21 families of dicot (Angiosperms) were studied ethnobotanically. The ethnobotanical inventory consist of botanical name of plant followed by its local name, family, habit and habitat, flowering period, voucher specimen number, part use, ethnomedicinal uses and other ethnobotanical uses.

Key words: Ethnobotany, Demography Galliyat Pakistan.

INTRODUCTION

Geo-Climate of the area

Galliyat is highly mountainous track situated in south east of North West Frontier

Province of Pakistan. It comprises many areas each of which is known as Galli and the whole areas is called is Galliyat. The study area includes Donga Galli, Bara Galli (Barian), Nathia Galli and Chhangla Galli. It is located at 33-35^0 N latitude and 73-74^0 E longitude with altitude between 7000-9500 feet. The climate of the area is not uniform, as there are large climatic variation mainly because of altitudinal differences. In general, the climate of the area is pleasant to extreme cold type in different months of the year.

The area receive major part of the rainfall during monsoon i.e. form June to middle of September. Therefore the weather remains almost dry till December and winter start gradually. During winter the rains are rather more as compared to snow because the area is fall in moist Temperature Zone (Rahim, 2000).

In winter snow ordinarily falls above an altitude of 3000 feet and occasionally even lower, but melts rapidly except at high altitudes and on northern aspects above 6000feet. Generally snowfall starts from late December to March. Temperature goes up slowly from January to June till the start of monsoon rains. Then it starts falling steadily till a rapid fall of temperature in December and January. The temperature is minimum in January and maximum in June (Rahim, 2000).

Ethnobotany

Since the prehistoric time man has always dependant upon the plants for his food, shelter and health. So the relationship between man and plants is as old as history of mankind and indigenous knowledge about the plants is as old as human civilization. The study of direct interaction between human and plant population through its culture, each human population classified plants, develops attitudes and beliefs and learns the use of plants, while human behavior has a direct

impact on the plant communities with which they interact, the plants themselves also impose limitations on human, these mixture interactions are the focus of ethnobotany (Pei, 1995). The fundamental structure of ethnobotanical research is to examine the dynamic relationship between human population, cultural values and plants, recognizing that plants permeate materially and metaphorically many aspects of culture, and that nature is by no means passive to human action but interacted with each other. To discover the practical potential of native plants, an ethnobotanist must be knowledgeable not only in the study of plants themselves, but must understand and be sensitive to the dynamics of how cultures work.

The vegetation of Pakistan is as diverse as its landscape. The sandy beaches, the blue lagoons, the mangroves along the Arabian sea, the sandy deserts, the desolate plateaus, the Indus basin, the high mountain ranges and the picturesque valleys, each have their own vegetational complexes. Nearly six thousand species of flowering plants reported to be occurring in Pakistan and Kashmir, a very large number is to be found in the Northern and Northwestern parts of Pakistan.

Pakistan being rich in indigenous herbal resources offers a great scope for ethnobotanical studies. The necessity for exploitation of indigenous knowledge of drugs has long been felt with increasing needs of drugs and medicines by human beings. It is desired that indigenous plant material should be collected, identified, processed and utilized for medicinal and other ethnobotanical uses. Keeping in view the importance of flora of Galliyat areas, the study was confined to collect the indigenous knowledge of local people about medicinal and other ethnobotanical uses of native plants. The proposed study area have never been surveyed ethnobotanically, hence the information is quite meager. The ethnobotanical study was the need of time in order to record the indigenous knowledge about the plants from the local people of the area. So the present study was planned keeping in view the following objectives.

- To establish a database of the plants of Galliyat with special reference to there ethnobotanical uses.
- To collect valuable information which has been transmitted orally from ancestors and knowledgeable persons to record these information for wider circulation.
- To investigate the local medicinal uses of plants for further investigation by plant scientists, pharmacologists and phytochemists.
- To aware the local communities about the conservation strategies of these valuable natural resources for coming generations.

Materials and Methods

Collection of Ethnobotanical data

Medicinal plants do not grow at any one place and are available in particular season. Therefore, the research work was divided into two phases depending upon the season. The ethnobotanical data during summer and winter seasons was collected by frequent survey trips. The information was gathered from villages of Galliyat. During field trips, the questionnaires were used to interviews the local inhabitants usually older people who were familiar with traditional use of indigenous plants. Interviews were conducted with local people in different villages individually. Repeated quarries were made to get the data confirmed.

Collection & Preservation of Plants

Local people conducted frequent field trips of the area according to the life form, flowering period and the season of utilization of the plant products. Throughout the field trips a general collection of plants were made. The fully dried specimens were poisoned and then mounted on Herbarium sheets.Plants were identified with the help of available literature (Stewart, 1972, Nasir & Rafique, 1995). Confirmation of plants was done by comparing with the already

identified plant specimens of the Herbarium, Quaid-i-Azam University, Islamabad. After correct identification, the plants were given voucher number and deposited as voucher specimens in the Herbarium for future references.

Results and Discussion

Ethnobotanical observations

The ethnobotanical data of 40 plant species belonging to 37 genera and 26 families, during summer and winter season were collected. Among them the two families belong to gymnosperms, two families of pteridophytes, one family of monocot and 21 families of dicot (Angiosperms) were studied ethnobotanically. The ethnobotanical inventory consist of botanical name of plant followed by its local name, family, habit and habitat, flowering period, voucher specimen number, part use, ethnomedicinal uses and other ethnobotanical uses.

1. *Abies pindrow* Royle.

Local Name = Paludar, partal
Family = Pinaceae
Habit and Habitat = It is the perennial tree and is one of the dominant species of an area.
Part used = Stem and bark
Flowering Period = April
Voucher Specimen No = 1
Ethnomedicinal Uses = Stem, bark is used to make tea which is recommended against vomiting and stomach disorders.
Other Ethnobotanical uses = Useful timber for building

purposes, wood is used for making furniture and matches.

2. *Cedrus deodara* Roxb. ex D.Don

Local Name = Deodar
Family = Pinaceae
Habit and Habitat = It is the perennial tree and is one of the common species of area.
Part used = wood, bark
Flowering Period = October-November
Voucher Specimen No = 3
Ethnomedicinal Uses = Wood is used for piles, pulmonary and urinary disorders. Bark is used for diarrhea, fever and skin diseases.
Other Ethnobotanical uses = Deodar yields oil called tar oil, which is used for various purposes

3. *Pinus wallichiana* Jackson

Local Name = Kail, biar
Family = Pinaceae
Habit and Habitat = It is the perennial tree and is one of the common species of area.
Part used = Wood, bark, leaves and twigs
Flowering Period = April- June
Voucher Specimen No = 2
Ethnomedicinal Uses = Oil obtained from the plant is used for wounds and ulcers. Wood is used for cough and ulcers.
Other Ethnobotanical uses = Turpentine obtained from this pine and is applied to

woodwork as protective varnish, it is also used as timber.

4. *Taxus wallichiana*

Local Name = Barmi, Thuna

Family = Taxaceae

Habit and Habitat = It is the perennial tree and is one of the threatened species of area.

Part used = leaves, bark and fruits

Flowering Period = April- May

Voucher Specimen No = 5

Ethnomedicinal Uses = Leaves are used in bronchitis, asthma, indigestion, epilepsy and as aphrodisiac

Other Ethnobotanical uses = Wood is used as timber.

5. *Ephedra gerardiana* Wall. ex Stapf

Local Name = Asmani booti

Family = Ephedraceae

Habit and Habitat = It is the perennial herb and is one of the rare species of area.

Part used = Stem, root and berries

Flowering Period = May- July

Voucher Specimen No = 9

Ethnomedicinal Uses = The liquid extract is used for controlling asthmatic attack. Decoction of the stem and root is considered a remedy for rheumatism. Juice of the berries is used for respiratory diseases.

Other Ethnobotanical uses = Plant is used as fodder.

6. *Adiantum incisum* L.

Local Name = Phunka

Family = Adiantaceae

Habit and Habitat = It is the perennial herb and is one of the dominant species of Changla and Barian hills.

Part used = Leaves

Flowering Period = March-April

Voucher Specimen No = 10

Ethnomedicinal Uses = Leaves are used for the extraction of juice which is recommended by local people for chronic diarrhea and dysentery. Juice is also used for jaundice.

Other Ethnobotanical uses = Plant is used as decorative agent.

7. *Trianthema portulacastrum* L.

Local Name = Itsit

Family = Aizoaceae

Habit and Habitat = It is rare succulent herb found in the area . Flowers light pink & white.

Flowering Period = July-August

Voucher specimen No = 12

Part used = Whole Plant

Ethnomedicinal uses = It is used for the treatment of jaundice and liver disorders. It is diuretic and used in dropsy. Also used in swelling to body, pain in bladder, cough, Asthma and fever.

Other Ethnobotanical uses = It is used as fodder for cattle.

8. *Achyranthes aspera* L.

Local Name = Puthkanda.
Family = Amaranthaceae
Habit and Habitat = It is annual herb found in waste places very abundantly.
Part used = Roots, Leaves and Stem.
Flowering Period = September-April
Voucher Specimen No = 13
Ethnomedicinal uses = Decoction in water is used for asthma, cough, Stomach pain, dropsy, piles and skin eruption.
Other Ethnobotanical uses = Plant is used as fodder

9. *Althea rosea* L.

Local Name = Gul e Khaira
Family = Malvaceae
Habit & Habitat = It is common, large size, erect undershrub with reddish purple flowers.
Part used = Roots
Flowering Period = July-September
Voucher Specimen No = 17
Ethnomedicinal Uses = Roots are dip in new earthen pot for whole night. In the following morning the water juice is drunk for kidney problems, sexual tonic and jaundice.
Other Ethnobotanical uses = It is used as ornamental.

10. *Berginia ciliata* (Haw.) Sternb

Local Name = Butpay
Family = Saxifragace
Habit & Habitat = It is very common herb found on rocks.

Part used = Leaves and roots.

Flowering Period = March- May

Voucher Specimen No = 18

Ethnomedicinal Uses = Roots are dried in sunshine, then ground to make powder. Half teaspoon of this powder is used in the following morning for stomach ulcer and digestive disorders. It is also recommended for rheumatism and muscle fatigue with milk and butter, otherwise it cause dryness. It is marketed plant, leaves are also externally applied for skin diseases.

Other Ethnobotanical uses = It is used for cattle diseases also.

11. *Ajuga bracteosa* Wall.ex.Benth

Local Name = Mangi booti

Family = Lamiaceae

Habit and Habitat = It is annual herb commonly found. Leaves dark green and flowers whitish.

Flowering Period = March-December

Voucher specimen No = 20

Part used = Whole Plant

Ethnomedicinal uses = Juice obtained from the fresh aerial parts and recommended for

blood purification and skin diseases.

Other Ethnobotanical uses = Aerial parts are used as ethno veterinary medicines for cattle.

12. *Origanum vulgare* L.

Local Name = Jangli Ajwain.

Family = Lamiaceae

Habit & Habitat = It is perennial herb with white to pale pink flowers and found commonly in the area.

Part used = Aerial parts.

Flowering Period = July-September

Voucher Specimen No = 19

Ethnomedicinal Uses = Aerial parts are dried in sunshine and are used as tea

(local kawa) for digestive ailments, stomach ulcers

and vomiting.

Other Ethnobotanical uses = It is used as ingredients of Spices as a flavoring

agent in houses.

13. *Swertia chirata* L.

Local Name = Chiraita

Family = Apiaceae

Habit and Habitat = It is erect herb with opposite leaves.

Flowering Period = July-August

Voucher specimen No = 14

Part used = Aerial parts

Ethnomedicinal uses = Aerial parts are dried in sunshine and are crushed to obtain powder. This is recommended to stomach trouble and digestive disorders. It is also used for skin diseases.

Other Ethnobotanical uses = It is used for cattle diseases.

14. *Viola serpens* Wall.ex.Roxb

Local Name = Binafsha

Family = Violaceae

Habit and Habitat = It is common small size herb with cordate leaves and blue/purplish flowers.

Part used = Flowers

Flowering Period = November-December

Voucher Specimen No = 11

Ethnomedicinal Uses = Flowers are dried under shade and ground to make powder which is recommended by local people for liver diseases, cold and cough. Decoction of the flower is used against jaundice and stomach diseases.

Other Ethnobotanical uses = Flowers are commercially very important.

15. *Polygonum amplexicaule* D.Don

Local Name = Mosloom

Family = Polygonaceae

Habit and Habitat = It is a large herb with a single flowering stalk with pink or reddish flowers. It is commonly found in hardy places.

Part used = Flowers and leaves

Flowering Period = June-August

Voucher Specimen No = 23

Ethnomedicinal Uses = Flowers and leaves are crushed to obtain the juice, which is used in fever and leucorrhoea.

Other Ethnobotanical uses = Flowers are used as decorative agents. Children to make head crowns and garland pluck flowers. Each garland varies in rate from Rs. 5-20 depending upon size.

16. *Punica granatum* L.

Local Name = Anar

Family = Punicaceae

Habit and Habitat = It is an erect wild shrub with reddish flowers and commonly found on hills.

Part used = Fruit and bark.

Flowering Period = September-December

Voucher Specimen No = 21

Ethnomedicinal Uses = Bark of the fruit is dried in sunshine and ground to obtain the powder. This powder is recommended with water for diarrhoea, dysentery and stomach problems. The powder is mixed with double amount of ground fennel and is recommended for diarrhoea and dysentery for cattle.

Other Ethnobotanical uses = Fruit is edible.

17. *Verbascum thapsus* L.

Local Name = Gider tambaku

Family = Scrophulariaceae

Habit and Habitat = It is uncommon perennial herb with yellow flowers.

Part used = Leaves

Flowering Period = June-August

Voucher Specimen No = 25

Ethnomedicinal Uses = Leaves are crushed to obtain powder. Half teaspoon of this powder twice in a day is recommended for asthma and cough.

Other Ethnobotanical uses = It is used as firewood.

18. *Ageratum houstoniarum* Mill.

Local Name = Neeli booti

Family = Asteraceae

Habit and Habitat = It is branched annual upto 60 cm tall herb. Flowers are purplish pink. It is commonly Found in cultivated fields and waste places.

Part used = Leaves and inflorescence juice.

Flowering Period = February - April

Voucher Specimen No = 26

Ethnomedicinal Uses = It is used for wound healing and is antidote for snake bite.

Other Ethnobotanical uses = It is the weed and sometimes used as fodder by goats and sheep.

19. *Artemisia maritima* L.

Local Name = Chouhu

Family = Asteraceae

Habit and Habitat = It is large size aromatic herb with light color flower and is commonly found.

Flowering Period = March-June

Voucher specimen No = 27

Part used = Aerial parts.

Ethnomedicinal uses = Aerial parts are extensively used for abdominal worms of children. It is also used against fever, malaria and chest diseases.

Other Ethnobotanical uses = It is sometime used as firewood.

20. *Senecio chrysanthemoides* DC.

Local Name = Chitta howla

Family = Asteraceae

Habit and Habitat = It is large size herb with yellow flower and is commonly found.

Flowering Period = July-September

Voucher specimen No = 28

Part used = Flowers and rhizome.

Ethnomedicinal uses = Rhizome is used against asthma and respiratory problems.

Other Ethnobotanical uses = Flowers are used as decorative agents in marriage ceremonies.

Flowers are also collected by children and women to make the garlands. The rate of each garland varies from Rs. 5-15.

21. *Asparagus adscendens*

Local Name = Musli sufaid.

Family = Liliaceae

Habit and Habitat = It is climber with greenish needle like leaves and is uncommonly found.

Flowering Period = July-September

Voucher specimen No = 29

Part used = Rhizome.

Ethnomedicinal uses = Rhizome is used against digestive problems, jaundice and liver problems. It is also used as sexual tonic.

Other Ethnobotanical uses = It is used as ornamental.

22. *Taraxacum officinale* Weber.

Local Name = Dudal Bumbola.

Family = Asteraceae

Habit and Habitat = A common herb with yellow flowers. Very commonly found throughout the area.

Flowering Period = February-April

Voucher specimen No = 30

Part used = Leaves and roots.

Ethnomedicinal uses = Leaves and roots are effective against snakebite, leaves are also

used for diabetes. Root paste is applied on swelling and joints.

Other Ethnobotanical uses = Plant is grazed by goats and sheep.

23. *Geranium wallichianum* D.Don ex Sweet.

Local Name = Rattanjot

Family = Geraniaceae

Habit and Habitat = It is prostrate to decumbent medium size herb with Purplish-blue flowers and is commonly found in moist places.

Part used = Flowers and leaves

Flowering Period = July-September

Voucher Specimen No = 31

Ethnomedicinal Uses = Flowers and leaves are used for blood purification and vision problems.

Other Ethnobotanical uses = Flowers are plucked by local ladies and children and are used in various traditional ceremonies.

24. *Rumex nepalansis* D.Don

Local Name = Kho

Family = Polygonaceae

Habit and Habitat = It is bushy perennial herb with pale green flowers.

Part used = Aerial parts

Flowering Period = March-August

Voucher Specimen No = 32

Ethnomedicinal Uses = Leaves are externally apply as the control therapy for skin irritation caused by the *Urtica dioca.* Leaves are also used for abortion in women.

Other Ethnobotanical uses = It is used as fodder.

25. *Arisaema utile* Hook. f. ex. Schott

Local Name = Hudees.

Family = Araceae

Habit and Habitat = It is herb with prominent leaves. Flowers are purple
brown and is commonly found in moist places.

Part used = Rhizome

Flowering Period = June-July

Voucher Specimen No = 33

Ethnomedicinal Uses = Rhizome is used against cancer.

Other Ethnobotanical uses = It is commonly known by local people as a
poisonous plant.

26. *Saussuria hetromalla* L.

Local Name = Kali Ziri

Family = Asteraceae

Habit and Habitat = Erect annual herb upto 120 cm tall. Very Commonly found along roadsides, cultivated fields, graveyards and waste places.

Part used = Roots

Flowering Period = March-June

Voucher Specimen No = 34

Ethnobotanical Uses = It is used as tonic and useful in liver diseases,
kidney and chest complaints.

Other Ethnobotanical uses = It is used as fodder for buffaloes. It is troublesome weed of wheat crop.

27. *Berberis lycium* Royle

Local Name = Simblu

Family = Berberidaceae

Habit and Habitat = It is a shrub with whitish stem and yellow flowers.
Part used = Bark, branches and roots.
Flowering Period = April-June
Voucher Specimen No = 35
Ethnomedicinal Uses = The extract from roots and stem is used against blood purification and stomach problems. The bark of the stem is used against fever and diabetes.
Other Ethnobotanical Uses = It is used as firewood in houses.

28. *Chrysanthemum leucanthemum* L.

Local Name = Chitti phulari
Family = Asteraceae
Habit and Habitat = It is erect, common large size herb with white-Yellowish flowers.
Part used = Flowers
Flowering Period = August-September
Voucher Specimen No = 36
Ethnomedicinal Uses = Flowers are used for digestive problems.
Other Ethnobotanical uses = Flowers are used to make head crowns and neck garlands.

29. *Sonchus arvensis* L.

Local Name = Dodal
Family = Asteraceae
Habit and Habitat = It is annual herb with golden yellow flowers. Very common in graveyards, waste places and in near cultivated field.
Part used = Whole plant
Flowering Period = March-May

Voucher Specimen No = 37

Ethnomedicinal Uses = It is diuretic, cooling, sedative and antiseptic. It is useful in cough, bronchitis, asthma and phthisis.

Other Ethnobotanical uses = It is a weed, some time graze by donkeys, goats and sheep.

30. *Zanthoxylum alatum* L.

Local Name = Timbar

Family = Rutaceae

Habit and Habitat = It is a shrub with stem and branches prickly.

Part used = Bark and branches.

Flowering Period = March-April

Voucher Specimen No = 38

Ethnomedicinal Uses = It is useful for ulcer and toothache.

Other ethnobotanical uses = It is used as miswak

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31. *Urtica dioca* L.

Local Name = Bichu booti.

Family = Urtiaceae

Habit and Habitat = It is a large size herb commonly found.

Part used = Leaves.

Flowering Period = July-August

Voucher Specimen No = 39

Ethnomedicial Uses = It is poisonous and irritable plant. It is used as vegetable when leaves are young.

32. *Jasminum humile* L.

Local Name = Peeli chembaili.

Family = Oleaceae

Habit and Habitat = It is the shrub which is common with yellow

flowers.

Part used = Flowers.

Flowering Period = April-May

Voucher Specimen No = 40

Ethnomedicinal Uses = It is used for blood purification and jaundice.

Other Ethnobotanical uses = It is used as ornamental plant.

33. *Bauhinia variegata* L.

Local Name = Kachnar

Family = Caeselpinaceae

Habit and Habitat = It is wild tree found in hills.

Part used = Bark, flowers, bud, root.

Flowering Period = February-April

Voucher Specimen No = 41

Ethnomedicinal Uses = Bark is used as anthelmintic tonic and is useful in skin diseases. Dried buds are used in dysentery piles and diarrhoea.

Other Ethnobotanical uses = It is used as ornamental tree. Young pods used as vegetable.

34. *Cannabis sativa* L.

Local Name = Bhung.

Family = Cannabinaceae

Habit and Habitat = It is gregarious shrub found very commonly in waste places, along roadsides and graveyards.

Part used = Whole plant.

Flowering Period = April -October

Voucher Specimen No = 42

Ethnomedicinal Uses = It act as sedative, narcotic intoxicant and antispasmodic. It is useful in diarrhoea. Young

inflorescence is used for cattle' diseases.

Other Ethnobotanical uses = It is used as firewood.

35. *Fragaria nubicola* Lindil.ex. Lacaita

Local Name = Strawberry.

= Rosaceae

Habit and Habitat = It is herb and found commonly.

Flowering Period = April-June

Voucher specimen No = 43

Part used = Fruits.

Ethnomedicinal uses = Fruits are used for digestive complaints.

Other Ethnobotanical uses = Fruits are edible and sold in market. 1 kg. fruit price ranges from Rs. 40-60.

36. *Artemisia dubia* L.

Family = Asteraceae

Habit and Habitat = It is an annual herb, found rarely.

Flowering Period = February-March

Voucher specimen No = 44

Part used = Aerial parts.

Ethnomedicinal uses = Commonly used for stomachache and digestive complaints.

Other Ethnobotanical uses = Dried plants used as a firewood.

36. *Echinops cornigerus* L.

Family = Asteraceae

Habit and Habitat = It is an annual herb, spiny and found commonly.

Flowering Period = September-October

Voucher specimen No = 45

Part used = Aerial parts.

Ethnomedicinal uses = Aerial parts are dried and crushed to obtain powder, which is commonly used for fever of domestic animals

Other Ethnobotanical uses = Dried plants used as a firewood.

37. *Swertia hookeri* L.

Family = Apiaceae

Habit and Habitat = It is an annual herb, found commonly.

Flowering Period = December-March

Voucher specimen No. = 46

Part used = Aerial parts.

Ethnomedicinal uses = Fresh aerial parts are used to extract the juice, which is recommended for blood purification

Other Ethnobotanical uses = Aerial parts are also used for animal as a fodder.

38. *Geranium himalayense*.

Local Name = Peela ratanjoot

Family = Geraniaceae

Habit and Habitat = It is an annual large size herb, with the yellow flowers, found commonly.

Flowering Period = April-June

Voucher specimen No = 47

Part used = Aerial parts.

Ethnomedicinal uses = Aerial parts are used for jaundice, kidney problem and old fever.

Other Ethnobotanical uses = Plant is used as fodder.

39.*Cissampelos pareira* L.

Local Name = Ghori sumbi

Family = Menispermaceae

Habit and Habitat = It is an annual herbaceous climber, found in moist places.

Flowering Period = February-March

Voucher specimen No = 48

Part used = Leaves and stems.

Ethnomedicinal uses = Leaves and stems are crushed and are used commonly by diabetics for diabetes. Extract from leaves and stems and mixed in sugar and is used for diarrhea and dysentery.

Other Ethnobotanical uses = Plant is used as fodder.

40. *Dryopteris ramosa* L

Local Name = Pakha

Family = Aspidiaceae

Habit and Habitat = It is a fern found in moist and shady places.

Flowering Period = December-March

Voucher specimen No = 49

Part used = Young leaves.

Ethnomedicinal uses = Young leaves are collected in March-May and used as vegetable against gastric ulcer, constipation and aphrodisiac.

Other Ethnobotanical uses = Fresh leaves with spinach are cooked as vegetable.

Discussion

Plants form the basis of life. They provide us ready-made food. Medicines to fight disease, fuel

wood for burning, food and forage for our cattle, flowers for celebration, valuable food for mak1ing agricultural tools. Timber for construction and many more useful items. Ethnobotany is the most important approach to study natural resource management if indigenous people. The interaction between the mountain people and natural systems through history has helped in management the richness of the species, communication and genetic material in both productive systems and wild lands of the mountain environments. However, the rich biodiversity is being disastrously impoverished due to human action in the last few decades. Understanding indigenous knowledge of mountain people in relation to biodiversity resources management is done of the issues for sustainable development. (Pie, 1991.)

Most of the people of the Galliyat areas depend on mountain resources, however a large fraction of population also depends on agriculture and agroforestry. They collect a lot of medicinal plants, fodder, fuel wood and timber wood from the forest. Human existence, grazing and cultivation exert enormous stress on the vegetation and results in environment degradation (Shinwari & Khan, 1998). Similar situation also prevails in this valley. Some other causes include ignorance, poverty, joblessness and lake of scientific knowledge for the collection of medicinal plants.

Nearly 80% of the world population depends upon traditional system of health care. Allopathic drugs have brought a revolution throughout the world, but the plant based medicines have its own status (Ahmad, 2003). The local uses of plants as a cure are common particularly in those areas, which have little or no assess to modern health services.

Hence due to less communication means, poverty, ignorance and unavailability of medicinal facilities, most people of especially rural people still forced to practice traditional medicines for their treatment. Most of these people form the poorest link in the trade of medicinal plants (Khan, 2002). Now some people especially younger generation is using

alternative modern medicines for their treatment. And also forgetting about indigenous knowledge of plants. But most of the people especially old people still posses the knowledge about wild resources.

The local inhabitants and local practitioners in area through traditional knowledge collect the medicinal plants, Haq (1993) reported some medicinal plants from Swat and Mansehra Districts.

The ethnobotanical uses of 40 species were recorded, which are used to cure various ailments and other uses in this area, such as the leaves, stem and roots of *Berberis lycium* are used for many treatments such as intestinal colic, stomachache, as expectorant, in internal wounds, also used in jaundice and other liver disorders. The oil extracted from the rhizome of *Arisaema utile* is used for external wounds. It is also used for many other diseases. The bark and leaves of *Birginia ciliata* are used as poultice for tumor and swelling. Similarly the leaves of *Origanun vulgare* are used as carminative, antispasmodic and cooling purposes. Its leaves are also used for cold and cough etc.

Collection of medicinal plants has threatened certain species. There is a need of careful conservation of the plants resources of the region, otherwise many plants may be lost forever and become extinct.

Among the medicinal plants *Arisaema utile, Berberis lycium, Origanun vulgare and Pinus wallichiana* were once very wide spread in area, but are now restricted in a small localized area. It is due to the over exploitation of these plants for its high medicinal properties. However the plants are vulnerable and will be threatened in near future if the measures are not taken for its conservation. Local staff, local stock holders should be aware about the conservation of plants resources of the area (Aumeeruddy, 1996)

The medicinal plants of the area can be conserved by the application of alternative modern

medicinal facilities on large scale. Due to easy availability of modern medicine on large scale and low rates, the people of the valley will depend upon the modern medicines for the treatment of diseases.

Conclusion and Recommendations

Medicinal plant is a component of Agriculture sector and contributes its share in economic development. The sustainable harvesting of plants having both medicinal and economic value has great potential. In fact, there is no local awareness about the proper collection of various species. Thus there is a need, to create awareness of the importance of these plants among local people and to provide them guidance and training in collection and processing to enhance their income. There is a possibility of complete exhaustion of a particular herb in near future. Therefore, it is necessary to establish demonstration plot in the farmer's field to promote cultivation of medicinal plants to uplift socio-economic condition of communities. Financial and technical assistance may be provided to the formers of small holding for cultivation of fast selling drug species having constant demand in the market. These species will generate additional income for the communities. Marketing survey of important herbal drug markets should be conducted to determine the supply and demand position and to identify the annual requirements of various plant-based manufacturing units. If this information is available, links with marketing channel between community organization and end-users will be established. Thus collectors and growers will be in a better position to get maximum benefit form the sale of herbal drugs.

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