Ethnobotanical Studies of Chikar and its Allied Areas of District Muzaffarabad

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Abstract: During ethnobotanical investigations in Chikar and allied areas of Muzaffarabad a total of 53 plant species belonging to 48 genera of 33 families were recorded. Most of the plant species are used as medicinal plants for the ailments of various diseases while some wild plant species are used as fuel, wood, timber, fruit, fodder and vegetables. Some of the most interesting and representative plants of the area are Adhatoda zeylanica which is mainly used for cough, bronchitis, stomachache and dysentery. Anisome jacquemontii is poisonous plant. Extract of the leaves of Viburnum opulus is administered in menstruation and the fruit is laxative and blood purifier.

Key words: Ethnobotany, Chikar, Muzaffarabad, plant resources, medicinal plants

Introduction

Chikar is a town of Tehsil Hattian Bala and situated at a distance of 16 km from Muzaffarabad, at an elevation of 1828 meters. It is located in the south of Muzaffarabad River Jhelum which flows in north of the town. East of Chikar Chokothi sector, in the west Kohala while District Bagh is in south. The area falls in Jhelum valley, which is formed by the river Jhelum which oozes from "Chashma Verinag" in occupied Kashmir. The outstanding features of this beautiful place are its healthy climate and picturesque surroundings. The investigated area includes Hattian Bala, Chinar, Sari, Bani Hafiz, Nato village, Surbagla village, Orni, Kyari village, Chatter Klaus and Danma. Summer is pleasant while winter is severe June and July are the hottest months of the year while December and January are coldest months. Maximum mean temperature is 36.5 °C and minimum temperature is 16.7 °C (Table 1).

Table 1: Temperature variation and average rainfall from 1988 to 1996

<table>
<thead>
<tr>
<th>Year</th>
<th>Maximum temperature °C</th>
<th>Minimum temperature °C</th>
<th>Station Ghari dopatta (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>28.5</td>
<td>16.7</td>
<td>1530.2</td>
</tr>
<tr>
<td>1995</td>
<td>36.5</td>
<td>20.1</td>
<td>1739.6</td>
</tr>
<tr>
<td>1994</td>
<td>29.6</td>
<td>15.8</td>
<td>1412.0</td>
</tr>
<tr>
<td>1993</td>
<td>34.4</td>
<td>19.8</td>
<td>1530.2</td>
</tr>
<tr>
<td>1992</td>
<td>32.4</td>
<td>17.2</td>
<td>1916.1</td>
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<tr>
<td>1991</td>
<td>32.1</td>
<td>18.5</td>
<td>1440.2</td>
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<td>1990</td>
<td>34.0</td>
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<tr>
<td>1989</td>
<td>32.7</td>
<td>21.1</td>
<td>1553.7</td>
</tr>
<tr>
<td>1988</td>
<td>28.8</td>
<td>21.1</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 2: Average monthly humidity

<table>
<thead>
<tr>
<th>Month</th>
<th>8 am</th>
<th>5 pm</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>8</td>
<td>-</td>
</tr>
<tr>
<td>February</td>
<td>20.5</td>
<td>-</td>
</tr>
<tr>
<td>March</td>
<td>81.5</td>
<td>-</td>
</tr>
<tr>
<td>April</td>
<td>61.5</td>
<td>68</td>
</tr>
<tr>
<td>May</td>
<td>57.5</td>
<td>62</td>
</tr>
<tr>
<td>June</td>
<td>53</td>
<td>66.5</td>
</tr>
<tr>
<td>July</td>
<td>80</td>
<td>86.5</td>
</tr>
<tr>
<td>August</td>
<td>80.5</td>
<td>88</td>
</tr>
<tr>
<td>September</td>
<td>65.5</td>
<td>73.5</td>
</tr>
<tr>
<td>October</td>
<td>65.5</td>
<td>-</td>
</tr>
<tr>
<td>November</td>
<td>76.5</td>
<td>-</td>
</tr>
<tr>
<td>December</td>
<td>77.5</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 3: Soil analysis of different areas of Muzaffarabad

<table>
<thead>
<tr>
<th>Properties of soil</th>
<th>Chikar</th>
<th>Chinar</th>
<th>Hattian</th>
<th>Danna</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saturation (%)</td>
<td>27</td>
<td>31</td>
<td>31</td>
<td>28</td>
</tr>
<tr>
<td>Soil texture</td>
<td>Sandy loam</td>
<td>Loam</td>
<td>Loam</td>
<td>Sandy loam</td>
</tr>
<tr>
<td>Soil pH</td>
<td>6.80</td>
<td>6.70</td>
<td>4.45</td>
<td>5.30</td>
</tr>
<tr>
<td>Organic matter (%)</td>
<td>2.15</td>
<td>1.56</td>
<td>2.13</td>
<td>2.10</td>
</tr>
<tr>
<td>Extractable (P) ppm</td>
<td>9.86</td>
<td>5.82</td>
<td>7.90</td>
<td>8.50</td>
</tr>
<tr>
<td>Extractable (K) ppm</td>
<td>73.20</td>
<td>22.35</td>
<td>30.50</td>
<td>75.20</td>
</tr>
</tbody>
</table>

It occurs mostly in the form of rainfall, snow fall, dew and hails. The area is watered by winter rains and as well as by monsoon rains. Average annual rainfall of the area from 1989 to 1996 (Table 1). Snowfall occurs in winter season on high altitude in the month of November to March. Snowfall ranges from 1 foot to 40 feet. Some times precipitation occurs in the form of hails, which causes damage to the crops and fruits of area. In the cold and frost nights the area also receives precipitation in the form of dewdrops. The relative humidity is higher in cloudy days. It is lower during day time and higher at night (Table 2). Major stream in the area is River Jhelum oozes out from "Chashma Verinag" situated in the Indian held Kashmir. The area is characterized by rugged topography. Rocks are of sedimentary type of Precambrian age, no plain is in its fate except some terraces. Main types of rocks of the area are shale and sandstone (Beig, 2000). Soil samples were taken from Chikar and its allied areas. Samples were analyzed by the Agriculture Department Muzaffarabad. Soil is mostly loamy and sandy loam. Soil pH ranges from 4.46 to 6.80, organic matter 1.56 to 2.15 %, saturation 27 to 31 %, extractable phosphorus 5.82 to 9.96 ppm and extractable K 22.25 to 75.20 ppm (Table 3).

Ethnobotany of the area: Study of nature is called science. Plant science is concerned with the history, commerce, collection, selection, identification and preservation of the plants. Plants always had a great historical impact on the human civilization. Disease decay and death have always coexisted with the life. The study of diseases and their treatment must have been contemporaneous with the human. Ethnobotany is new field of research also applies its results on conservation and community development. Local natural history becomes a living, where it has been transmitted orally from many years. Local people of Chikar and its allied areas have always used medicinal plants for various ailments and
had a long time been dependent upon plant resources for their food shelter, health fuel and other purposes. Today ethnobotany is widely accepted as a science of human interactions with plants and ecosystem. Ethnobotany is a multi-disciplinary science of botany, ecology and anthropology. The fundamental structure of ethnobotanical research is to examine the relationship between human populations and cultural values. The survey of Chikar and its allied areas revealed that area is floristically rich. The local names are given in Pahari.

Shinwari and Khan (1997) describe the results of ethnobotanical investigation conducted in Margalla Hills National Park. The survey was aimed to enlist the fuel wood species and to assess their rate of consumption, availability and threats facing by the park authorities. A total of 35 species belonging to 29 genera and 24 families of wild trees and shrubs, were found to be commonly used as fuel wood in Margalla Hills National Park by the people.

Qureshi et al. (1997) studied the ethnobotanical uses of *Adhatoda vesica* Nees in chest diseases. The uses of *Adhatoda vesica* by tribes and rural people as herbal medicine for most of chest diseases as cough, bronchitis and asthma. Ahmad (1997) described the distribution, morphology and medicinal uses of *Taxis baccata* L. and he describes various medicinal uses as extract of plant is insecticide leaves and fruits are sedative and antispasmodic.

Gupta et al. (1997) reported important folk medicinal plants and traditional knowledge of tribes of Aurangabad and Nasik Forest divisions of Maharashtra (India). The study deals with relation of folk medicinal plants and traditional knowledge of tribal for the welfare of the mankind and medicare. They reported 2000 plant specimens of medicinal importance for the cure of different diseases.

Rashid et al. (1997) described potential threats involved in the decline of some medicinal plants of Margalla Hills, Islamabad they studied in order to find out potential threats to these plants and their diversity was noted. It was observed that *Carissa opaca* Stap. f Ex. Hains and *Dodonaea viscosa* (L.) Jacq were the major species exploited as fire wood and grazing material. Fire was monitored the most perilous one, involved in decline of these species. Cutting and grazing are major problems faced by the medicinal plants of Margalla Hills, Islamabad.

Qureshi et al. (1997) reported checklist of the Gymnosperms of Chital District, NWFP, Pakistan and their ethnobotany. They listed seven genera and fifteen species belonging to four families. Two species are identified as tea / coffee substitute, one has edible five as timber yielding and nine species are reported as medicinal. Singh et al. (1997) studied folk medicinal plants of Garhwal and Kumaon forests of Uttar Pradesh India. They got information on new folk medicinal uses of 96 plants species belonging to 93 genera and 59 families. The data were collected either from local healers, or from the reliable old villagers during the course of ethnobotanical exploration of various forests and rural areas.

Gorge (1997) describes anthelmintic activity of some medicinal plants. He reported that helminthic infections are now being recognized as cause of much chronic ill health and sluggishness among the tropical people. More than half of the population suffers from worm infections. Traditional system of medicine reports the efficacy of several plant products for eliminating helminthes. Saleem et al. (1998) reported chemistry of the medicinal plants of genus Acacia. They collected the data about 11 species of this genus and describe the medicinal importance of the different part of the different species such as bark, root, stem, flower, leaves, and their medicinal importance in the treatment of various diseases.

Ali et al. (1998) reported some medicinally important plants and described various parts of different species, which are effective in cure of different diseases such as asthma, cough, lungs, disorders, whooping cough, chronic bronchitis. Hamid et al. (1998) reported the medicinal plants of family Cannabinaceae. They reported that in Pakistan this family has 2 genera. Each having a single species which are of narcotic and sedative effects.

Shinwari and Khan (1999) reported folk uses of medicinal herbs of Margalla Hills National Park, Islamabad and he describe that the inhabitants of the park use medicinal plants for various ailments and are dependent on plant sources for food, shelter and fodder, health care and other cultural purposes. They recorded 50 species of herbs belonging to 27 families were recorded as medicinally by inhabitants of park.

**Materials and Methods**

During the field work, trips were arranged during proper harvest time of the plants collected and information about their use is collected from inhabitants of the area. Interviews were taken and observations were made during guided and transect walks. To eliminate any chance of error in identification, the specimens are collected in flowering and fruiting condition. Plant specimens were preserved and identified in the herbarium of Quaid-i-Azam University, Islamabad, Pakistan. Interviews of about ~ 150 informants including local inhabitants, herbalists, pansaries and societies were conducted on random basis. The results were rechecked and compared with already provided literature. Analysis of the data was done and indigenous knowledge was documented.

**Results**

During ethnobotanical investigations in Chikar and allied areas of Muzaffarabad a total of 53 plant species belonging to 48 genera and 33 families were recorded. Most of the plant species are used as medicinal plants for the ailment of various diseases while some wild plant species are used as fuelwood, timber, fruit, fodder and vegetables. The results obtained are given below:

**Acanthaceae**

Botanical name: *Adhatoda zeylonica* Medic.
Local name: Baker
Occurrence: Danna, Chatter Klaus, Hattian Bala
Status: Shrub
Folk medicinal uses: Roots and leaves are used for cough, bronchitis used in desentry. Leaves are also used for stomachache joints and eruption used in dysentery, especially in case of cattle’s. Leaves buds are used in diabetes.

Botanical name: *Strobilanthes attenuatus* Nees
Local name: Ban Till
Occurrence: Danna, Chinari
Status: Herb
Folk medicinal uses: Leaves are chewed for toothache and leewowelling. Dried powder is applied against Pus and Apostema.

**Amaranthaceae**

Botanical name: *Amaranthus viridis* L.
Local name: Gunnyar
Occurrence: Chikar, Bari Hafiz, Danna
Status: Herb
Folk medicinal uses: The plants used as anthelmintic. Also used for piles.
Anacardiaceae
Botanical name: *Rhus cotinus* L.
Local name: Bahan
Occurrence: Danna
Status: Shrub
Folk medicinal uses: Extract is antiallergenic (relieves allergy), antiparasitic (kills parasites) and antipyretic (relieves fever).

Apocynaceae
Botanical name: *Carissa opaca* Stap f.ex.Haines
Local name: Grunda
Occurrence: Danna, Chatter Klaus, Chinari
Status: Shrub
Folk medicinal uses: Fruit and leaves are cardiac, stimulants. Leaf decoction is used for asthma.
Botanical name: *Nerium oleander* L.
Local name: Kneer/Gundara
Occurrence: Danna, Chinari, Chatter Klaus
Status: Shrub
Folk medicinal uses: Bark is used in skin diseases, rootpast is scorpion sting and snake bite.

Araceae
Botanical name: *Arisaema jacquomontii* Blume
Local name: Aasnd/Sergunds
Occurrence: Chikar, Bani Hafiz
Status: Herb
Folk medicinal uses: Plant is considered as poison.

Asclepiadaceae
Botanical name: *Calotropis procera* (Wild) R. Br.
Local name: Ak
Occurrence: Danna, Chatter Klaus
Status: Herb
Folk medicinal uses: roots and bark are used as tonic, antispasmodic, expectorant and emetic. Fresh leaves are roasted in the Ghee or oil and are applied on the swelling parts of body.

Asteraceae
Botanical name: *Achillea millefolium* L.
Local name: Sultan Booti
Occurrence: Chikar, Bani Hafiz
Status: Herb
Folk medicinal uses: Herb is diaphoretic, stimulant and chewed for toothache. The leaves, stem and floral parts are crushed, mixed with sugar and water and are taken in the case of fever, chest burn and for blood purification.
Botanical name: *Anaphalis nepalensis* (Sperang) Hand
Local name: Chahal
Occurrence: Chinari, Chikar, Bani Hafiz
Status: Herb
Folk medicinal uses: Aqueous extract is applied over joints against heatstroke at high temperature.
Botanical name: *Anaphalis tminue* Buck
Local name: Doddy Jurree
Occurrence: Chinari, Chikar, Bani Hafiz
Status: Herb
Folk medicinal uses: Root powder is applied for joining the fractured bones. It relieves the pus from tumor.
Botanical name: *Eriogon alpinum* L.
Local name: Pir Gundal
Occurrence: Kuyari, Chikar
Status: Herb
Folk medicinal uses: Tea is prepared from dried root powder, which is calming and antiphlogistic (relieves fever).
Botanical name: *Helianthus annus* L.
Local name: Soojo
Occurrence: Chikar, Danna
Status: Herb
Folk medicinal uses: Flower is crushed mixed with oil and is applied in skin diseases and itching. Seeds are diuretic and expectorant.
Botanical name: *Senecio chrysanthenoides* D. C.
Local name: Chahal
Occurrence: Kayyari, Nato
Status: Herb
Folk medicinal uses: Aqueous extract is used as antipyretic (relives fever) and calming. Its root extract is given to children against cholera and lungs diseases.
Botanical name: *Senecio heteromelia* D. Don.
Local name: Kho Jurree
Occurrence: Chikar
Status: Herb
Folk medicinal uses: Extract is given against jaundice, arthralgia (Joint pain) and apsychia (non sense). Floral extract relieves scotoma by applying around the eye.
Botanical name: *Taraxacum officinale* Weber
Local name: Hund
Occurrence: Chikar, Danna, Chatter Klaus, Chinari
Status: Herb
Folk medicinal uses: Root powder is diuretic tonic. It is chiefly used in kidney and liver diseases. In case of fodder, it increases the milk yielding capacity of cattle.
Botanical name: *Xanthium stumarium* L.
Local name: Khutula
Occurrence: Danna
Status: Herb
Folk medicinal uses: Root extract is useful in cancer. Fruit is considered cooling and given in smallpox. Whole plants are supposed to posses powerful sedative properties. It is generally administered in the form of decoction and is said to be efficacious in long standing of malaria fever. Root extract is applied to ulcers and boils.

Balsaminaceae
Botanical name: *Impatiens edgeworthii* Hooker. F
Local name: Ban Till
Occurrence: Danna, Chikar
Status: Herb
Folk medicinal Uses: Aqueous extract is antipyretic (relives fever) and also used as fodder.

Berberidaceae
Botanical name: *Berberis lycium* Royle.
Local name: Simlo
Occurrence: Chikar, Danna, Chatter Klaus
Status: Shrub
Folk medicinal uses: The watery extract from the root and stem is used in ophthalmia fruit is coling and laxative. Bark is used for the internal wounds, throat pains and against diabetes. Root powder is used in bound fractures.

Bombaceae
Botanical name: *Bombax ceiba* L.
Local name: Simlo
Occurrence: Danna, Chikar
Status: Tree
Folk medicinal uses: Young roots are used as astringent and tonic for brain, young fruits are stimulant.
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Buxaceae
Botanical name: Saracococa saligna (D. Don) Muell
Local name: Ban Suthra
Occurrence: Chikar, Bani Hafiz, Nato, Seri
Status: Shrub
Folk medicinal uses: Aqueous extract is used as antipyretic (relieves fever) and calmative.

Caesalpinaceae
Botanical name: Bauhinia variegata L.
Local name: Kalyar
Occurrence: Danna
Status: Tree
Folk medicinal uses: Bark is used as alliterative, tonic, astringent useful in skin diseases and ulcer. Dried buds are used in dysentery, piles, diarrhea and worms.

Cannabinae
Botanical name: Cannabis sativa L.
Local name: Bhang
Occurrence: Danna, Chinari, Chatter Klaus
Status: Herb
Folk medicinal uses: The plant is used as tonic, narcotic and sedative. Dried and crushed leaves are taken as a drink for their narcotic action.

Caprifoliaceae
Botanical name: Viburnum cassinifolium D. Don
Local name: Guch
Occurrence: Chikar, Bani Hafiz
Status: Shrub
Folk medicinal uses: Extract of the leaves is administered in menorrhagia. Fruit is laxative and blood purifiers.

Caryophyllaceae
Botanical name: Silene vulgaris L.
Local name: Butkurn
Occurrence: Kayyari, Chikar, Bani Hafiz
Status: Herb
Folk medicinal uses: The plant is known as an emollient and is used in bath. Locally it is used as fodder for cattle.

Celastraceae
Botanical name: Maytenus rotundifolius Wall.
Local name: Putakh
Occurrence: Chattar, Danna, Chinari
Status: Shrub
Folk medicinal uses: Seeds are smoked to relieved toothache. The whole dried plant is used for the purpose of fuel.

Chenopodiaceae
Botanical name: Chenopodium album L.
Local name: Bathev
Occurrence: Chikar, Bani Hafiz
Status: Herb
Folk medicinal uses: Leaves and seeds are used as laxative, used in hepatic disorders and enlarged spleen. Aqueous extract of leaves given orally against jaundice and urinary diseases.

Cuscutaceae
Botanical name: Cuscuta reflexa Roxb
Local name: Neela Dara
Occurrence: Common
Status: Herb
Folk medicinal uses: Extract of the whole plant is used for the removal of dandruff and is good hair tonic. Plants are carminative, alternative, purgative and diuretic used in jaundice and joints pain.

Euphorbiaceae
Botanical name: Euphorbia helioscopa L.
Local name: Dode
Occurrence: Donna
Status: Herb
Folk medicinal uses: Aqueous extract is wormicide (Worm killer) powder is applied for wound healing.
Botanical name: Ricinus communis L.
Local name: Hurnoli
Occurrence: Donna, Chatter Klaus
Status: Shrub
Folk medicinal uses: It is plastered over the fractured bone and acts as dioplass, and also against abartisation (removal of bone joints). Oil obtained from the seeds is used as laxative and also given to children in case of constipation. Bark powder is used for healing of wounds.
Botanical name: Malotus philippensis (Lam.) Mull
Local name: Kamila
Occurrence: Donna, Chatter Klaus
Status: Shrub
Folk medicinal uses: Powder obtained from the fruits is used as a vermifuge, purgative and certain parasitic skin diseases.

Fagaceae
Botanical name: Quercus incana L.
Local name: Reen
Occurrence: Chikar, Bani Hafiz
Status: Tree
Folk medicinal uses: Corn is used as astringent and diuretic, also given in diarrhoea, indigestion & asthma.

Fumariaceae
Botanical name: Fumaria indica L.
Local name: Patpapa
Occurrence: Chikar, Bani Hafiz
Status: Herb
Folk medicinal uses: Aqueous extract is given orally in fevers, blood disorders, indigestion and mansis disorder. It is also used as ear drop in ear diseases.

Gentianaceae
Botanical name: Gentiana kurro Royle
Local name: Naeli Booti
Occurrence: Chikar, Kayyari, Bani Hafiz, Seri
Status: Herb
Folk medicinal uses: Decoction of whole plant is used as blood tonic.

Geraniaceae
Botanical name: Geranium wallichianum Fisch
Local name: Ratton Jotte
Occurrence: Kayyari, Chikar, Bani Hafiz
Status: Herb
Folk medicinal uses: Root powder is used in case of jaundice, kidney and spleen problems. Floral parts and leaves extract is used for vision problem and blood purification.

Hypericaceae
Botanical name: Hypericum perforatum L.
Local name: Taloo Jurree
Occurrence: Chikar, Bani Hafiz, Nato
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**Status:** Herb

**Folk medicinal uses:** Whole plant is given to the cattle's in case of Takoo (Stomach problems) leaves are diuretic, laxative and good for piles.

**Juglandaceae**

**Botanical name:** Juglans regia L.

**Local name:** Akhrot, Khore

**Occurrence:** Danna, Chikar

**Status:** Tree

**Folk medicinal uses:** Bark and leaves are chewed in toothache, fruit is edible. Wood is used in furniture and construction purposes.

**Labiateae**

**Botanical name:** Mentha royleana L.

**Local name:** Janglo Podina

**Occurrence:** Common

**Status:** Herb

**Folk medicinal uses:** The dried leaves are made into powder and used with curd and as stomachache. Also used as carminative in diarrhea and dysentery.

**Botanical name:** Mentha longifolia L.

**Local name:** Brenna

**Occurrence:** Common

**Status:** Herb

**Folk medicinal uses:** Herbal tea is taken in abdominal disorders. Also used as carminative in diarrhea and dysentery.

**Botanical name:** Micromeria biflora (D. Don) Benth.

**Local name:** Chai Boob

**Occurrence:** Common

**Status:** Herb

**Folk medicinal uses:** Used as herbal tea for the relief of joint pain and also used as fodder for cattle.

**Liliaceae**

**Botanical name:** Allium cepa L.

**Local name:** Payyaz

**Occurrence:** Common

**Status:** Herb

**Folk medicinal uses:** Extract of the bulb is useful in vomiting, body pains, tumors and ulcer. Also used as condiment.

**Botanical name:** Allium sativum L.

**Local name:** Thoom

**Occurrence:** Common

**Status:** Herb

**Folk medicinal uses:** Garlic is a diaphoretic, diuretic, expectorant, stimulant and antiseptic. It is also used as a remedy of leprosy. Syrup of garlic is effective for asthma, cough, difficulty of breathing and most of the diseases of the lungs particularly in chronic bronchitis.

**Martyniaceae**

**Botanical name:** Martynia annua L.

**Local name:** Kundrya

**Occurrence:** chikar, Kayari, Nato, Sari

**Status:** Herb

**Folk medicinal uses:** Aqueous extract is antipyretic relieves fever anti allergic relieves allergy blood purifies and calming.

**Meliaceae**

**Botanical name:** Melia azedarach L.

**Local name:** Drek

**Occurrence:** Common

**Status:** Tree

**Folk medicinal uses:** Flowers and leaves are used to relieve headaches. A decoction of leaves is applied in hysteria. Seeds are used against diabetes.

**Mimosaceae**

**Botanical name:** Acacia modesta Wall

**Local name:** Phuli

**Occurrence:** Danna, Chatter Klaus

**Status:** Tree

**Folk medicinal uses:** The gum obtained from the bark is used as tonic and stimulant. Wood is used as fuel and construction purposes.

**Botanical name:** Acacia nilotica L.

**Local name:** Kiker

**Occurrence:** Danna, Chatter Klaus

**Status:** Tree

**Folk medicinal uses:** Bark and seeds are used as astringent and in piles, diarrhea and dysentery. Wood is used as fuel.

**Moraceae**

**Botanical name:** Morus alba L.

**Local name:** Toot

**Occurrence:** Chatter Klaus, Danna

**Status:** Tree

**Folk medicinal uses:** A decoction of the leaves is used in inflammation of throat. The fruit is used as cooling and laxative. Wood is used in agricultural implements. Branches are used in making baskets of different size.

**Botanical name:** Ficus palmata Forsk

**Local name:** Phupwara

**Occurrence:** Danna, Chatter Klaus, Hattian

**Status:** Tree

**Folk medicinal uses:** Fruit is used as cooling, alterative and laxative. Wood is used as fuel and construction purposes.

**Botanical name:** Ficus bengalensis L.

**Local name:** Boher

**Occurrence:** Danna, Chatter Klaus

**Status:** Tree

**Folk medicinal uses:** The milk juice is externally applied for pains and bruises. The leaves are heated as a poultice, applied to abscesses. The root fibres are said to be given in gonorrhea.

**Myrsinaceae**

**Botanical name:** Myrsine africana L.

**Local name:** Gokher

**Occurrence:** Chikar, Bani Hafiz, Sari

**Status:** Shrub

**Folk medicinal uses:** Dried stem and branches are used as fuel.

**Orchidaceae**

**Botanical name:** Habenaria digitata Lindl

**Local name:** Pir Gundal

**Occurrence:** Chikar, Bani Hafiz, Sari

**Status:** Herb

**Folk medicinal uses:** Root powder is applied for joining the fractured bones. Dried powder is applied to pussy wounds, scabies and piles.

**Oleaceae**

**Botanical name:** Olea ferruginea Royle

**Local name:** Khoy

**Occurrence:** Common

**Status:** Tree

**Folk medicinal uses:** The decoction of the leaves is used for...
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toothache. Leaves are bitter, astringent, antiseptic, antiparotic and diuretic. Oil obtained from the fruit is used as rubefacient.

Oxalidaceae
Botanical name: Oxalis corniculata L.
Local name: Khatti juree
Occurrence: Common
Status: Herb
Folk medicinal uses: Juice of the plant is given in stomach trouble. Decoction of roots is useful for worms. The extract of the plant is applied in case of scorpion sting.

The results reported that medicinal plant species should be focussed for regeneration and propagation. Establishment of Botanical Garden is suggested in this regard. Periodic grazing should be replaced by rotary grazing to conserve the endangered species. Local people should be considered in decision making. There is need to propagate awareness for the protection of wild medicinal plants. During collection not pluck all plants from any area.

Future demand
According to Rahim (1993) the future thrusts are as follows, there is an urgent need to explore the native flora of different environments.

A systematic cataloguing be made of the life support species according to the habitat.

The information regarding their taxonomy, distribution, ecological characteristics, products (i.e. food, fuel, fiber, medicinal value, soil stabilization, etc) and their conservation factors are taken up at the earliest.

The germ plasm of some life support species is under threat due to habitat loss. Their conservation should be done on priority basis.

The selected and prioritized species should be popularized among our people for food, fodder, medicine and energy needs.

A long time storage should be arranged by the government so that biological life support system can be protected from future needs. The survival of Homo sapiens depends on such protective measures.

Computer data system should be developed for our region (Pakistan).

The role of lesser-known plants should be explored.

The germ plasm of the life support species should be imported or exchanged with neighbour countries and introduced in the local habitat to improve the economic condition of local inhabitants.

Almost all plants can be life support species during the emergency conditions. It would be worth while to prepare a catalogue, the poisonous or toxic plants of particular habitat. The vast majority of underutilized wild species should be studied through our knowledge of biotechnology.

The useful genes of life support species be identified and incorporated into the crop genetic background to improve the adaptability of the crops.

The results of this study that medicinal species be focussed for regeneration and propagation. Establishment of Botanical Garden is suggested in this regard. Periodic grazing should be replaced by rotary grazing. Local people should be considered in decisions making. There is need to propagate awareness for the protection of wild medicinal plants that during collection not pluck all plants from any area.

References