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Study of Chemical Constituents and Medicinal Uses of Indicator Species of District Bannu

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The present study was carried out to assess record and report the chemical constituents and ethnobotanical knowledge of indicator species of District Bannu. Medicinal outlines of about 57 plants were recorded through interview local people i.e. farmers, herbalists, hakims and Medicinal plants user dealers. The present investigation comprises the indigenous uses of 57 species belonging to 36 families of Angiosperms based upon their utility. Out of this rich Medicinal germplasm, 66.15% plants are wild while 44.18%, species were found to be cultivated, 26.74% species are both wild and cultivated of the total flora of this area. The most important medicinal families are Solanaceae (7 spp, 12.28%), Asteraceae (5 spp, 8.77%), Mimosaceae (3 spp, 5.26%), Moraceae (3 spp, 5.26%), Malvaceae, Amaranthaceae, Chenopodiaceae, Euphorbiaceae, Papilionaceae, Plantaginaceae, and Rhamnaceae (2 spp, 3.51%) While the remaining 25 families having 1 species each which is 1.75% of all families. The most common medicinal plants in the area are *Abroma augusta* (L.) F., *Acacia modesta* wall., *Achyranthes bidentata* Blume , *Albizia lebbeek* L., *Calotropis procera* L., *Capparis decidua* Forsk *Carthamus oxycantha* M. B, *Chenopodium album* L., *Citrus medica* L., *Citrullus colocynthis* Schrad, *Cuscuta reflexa* Roxb, *Cynodon dactylon* L. *Cyperus rotundrus* L., *Dodonia viscosa* L., *Eucalyptus globule* L., *Nerium oleander* L., *Papaver somniferum* L., *Trachy spermum ammi* L. *Typha orientallis* J. Preslw., *Vitex negundo* L., *Withania somnifera* L., *Xanthium strumarium* L., *Zizphus mauratiana* Lam., Some plants have wild fruits i.e.., *Solanum nigrum* L., while *Nerium oleander* L. *and Dodonaea viscosa* (L.) Jaeq are ornamental.

Keyword: Indicator species, chemicals, ethnobotany, Bannu.

1. Introduction

Bannu is a district of Khyber pakhtoonkhwa. It lies between 32.43 to 33.06 North latitude and from 70.22 to 70.57 East longitudes. It is situated at a distance of 190 km, in the south of Peshawar. It is bounded in the North by the Tribal Area and in the East by Karak district, while in the South by Lakki Marwat of Bannu district. The total area of the district is 1227 square kilometers. Its population is more than half a million. Majority of the population live in villages. Indicator species is a dominant species that provide much of the biomass or number of individuals in an area, or in simple words a species that represent the flora of a particular region[1].

Bannu is endowed with a variety of ecological zones and fascinating plant resources. It has a diver's indicator flora that is known to possess medicinal and economic values, and the local people in rural area have known their uses for the past several hundred years. Medicinal plants have a strong linkage with human health. Not only, the old ayurvedic and Unani system of

medicinal treatment depend on herbal drugs but the other systems including allopathic and homeopathic directly or indirectly depend upon the herbal drug plants for the preparation of certain synthetic drugs. Although Ethnobotany is highly neglected field in Pakistan, but the few papers has been published. The first person who worked in this area was Hocking, who wrote a series of papers on medicinal plants of Pakistan and reported that 84% of Pakistan's population was depending on traditional medicines for all or most of their medicinal need[2, 3,4].

A detailed glance of the ethnobotanical records, reveal that a number of outstanding botanists led several ethnobotanical studies in different parts of Pakistan. From the literature it reveals that Bannu district with rich indicator flora has remained ethno medicinally unexplored. Therefore present study has been undertaken to record less-known ethno medicines from different tribal communities of the Bannu district. Present study about the indicator flora will contribute more to the ethnobotanical information regarding flora of Bannu area[5,6,7,8,9].

2. Materials and Methods

Trips were arranged to different sites of the district Bannu to explore and collect important flora of the area during 2013. During exploratory trips, the Medicinal flora was carefully collected by adopting the recommended procedure. Local inhabitants (male. female, old generation and young generation) were interviewed to know about the uses of the indigenous flora for curing different diseases. The aim of the comparison is to extract the actual knowledge about the plants collected in relation to age difference. This information was then compared with each other and people of other villages of district were provoked to share and added their experiences. Such types of efforts are required to induce awareness in the local people about the conservation of the wealth of useful plants for their coming generations. to assess record and report the and ethnobotanical knowledge about chemical constituents of indicator species of District Bannu were recorded from previous research papers, books and other available literature Repeated queries were made to formulate the correct data. Outcome of the results were rechecked and compared with the available literature[10,11,12].

3. Results and Discussion

Different plants have been curing the diseases or several ailments at a time. Towards the middle of 20th century the single contribution of medicinal plants as a research and development reduced in favor of synthetic chemicals. Now, this tend is reversing once again in favor of plants as the later have been discovered to possess more balanced. Effective least injurious with none or much reduced side effects, are natural products. Therefore, herbal medicines have a special attraction, particularly to those who gate feed up or disappointed with other method of treatments [13,14,15].

The demand of medicinal plant is increasing day by day as compared to their production in the area. To avoid in-discriminate and un-scientific collection of medicinal plant, the local people should be trained for authentic identification and scientific collection. Besides this, the farmers of the area should be motivated to cultivate medicinal plants. The cultivation of every plant may not be possible are economical and such plant may be put under planned rotational collection [16].

Many drugs have been developed from the medicinal plants at various research centers around the world by utilizing the information obtained from the local

communities. Primary knowledge of the local people about the medicinal plant is the baseline for its further exportation. The local inhabitants who are custodians of this precious germ plasma resources and folk knowledge of local ecology for many centuries may be involved in any medicinal plants conservation programmed. To preserve this biodiversity some economic incentives may be paid to the local inhabitants. People participation and awareness about medicinal plants wealth can be play a pivotal rule in the conservation of natures' priceless gift in the research area and else where in the country [17,18,19].

The present study was carried out to assess record and report the Ethno botanical knowledge of district Bannu in winter months 2012. Medicinal outlines of about 57 plants were recorded through interview local people i.e. farmers, herbalists, hakims and Medicinal plants dealers. Each plant species is cited with botanical name, local name, family, part used, chemical constituents and their uses in detail below.

Table 1: 57 Indicator species of District Bannu

***Abroma augusta* (L.) F.**	***Convolvulus arvensis* L.**	***Mentha royleana* L.**	***Salvadora oleoides* Deone**
Abutilon indicum L.	*Cuscuta reflexa* Roxb	*Morus alba* L.	*Sida cardifolia* L.
Acacia modesta wall.	*Cynodon dactylon* L.	*Morus nigra* L.	*Solanum nigrum* L.
Acacia nilotica Delile	*Cyperus rotundrus* L.	*Nerium oleander* L.	*Solanum surattense* Burn, F
Achyranthes bidentata Blume	*Dalbergia sissoo* Roxb	*Oxalis corniculata* L.	*Taraxacum officinal* webber
Achyranthes japonica Nakai	*Datura Metel* L.	*Papaver somniferum* L.	*Trachyspermum ammi* Sprague
Albizia lebbeek L.	*Datura stramonium* L	*Peganum harmala* L.	*Typha orientallis* J. Preslw.
Calendula officinalis L.	*Dodonaea viscosa* (L.) Jaeq	*Physalis angulata* L.	*Vitex negundo* L.
Calotropis procera L.	*Eclipta prostrata* L.	*Physalis minuma* L.	*Withania somnifera* L.
Capparis deciduas Edgew.	*Eucalyptus globulus* Labill	*Plantago major* L.	*Xanthium strumarium* L
Carthamus oxycantha M. B	*Euphorbia pekinensis* Rupr	*Plantago ovota* Forssk	*Zizphus mauratiana* Lam.
Cassia fistula L.	*Equisetum hyemale* L	*Polygonum dichotomum* Bl	*Zizphus spinosa* Hu.
Chenopodium album L.	*Ficus religiosa* L.	*Portulaca oleracea* L.	
Chenopodium ambrosioides L	*Medicago sativa* L.	*Ricinus communis* L.	
Citrullus colocynthis Schrad	*Melia azedarach* L.	*Salix babylonica* L.	

- ***Abroma augusta* (L.) F.**
  Synonym: *Abroma augusta* Linn. F.
  Family: *Sterculiaceae*
  Local name: Hoso beta
  English Name: Devil's cotton
  Propagation: By seeds
  Part used: Root & bark, stem and leaves
  Flowering period: Feb-March
- **Chemicals constituents:** Stem bark contains beta-sterol and friedelin. Seeds contain oil, resins, an alkaloid in minute quantity and water soluble bases.
- **Medicinal uses:** The root and bark of this plant is uterine tonic. They contract the uterus and are used for treatment of sterility and other

menstrual disorders. Powdered root act as an anti-fertility agent. Leaves and stem are demulcent. Leaf past is used in ringworms. Leaves are useful in treating diabetes, pains of joints and headache.

- ***Abutilon indicum* (L.) Sweet.**
  Synonym: *Abutilon asiaticum* (L.) Sweet
  Family: Malvaceae
  Local name: Koso beta
  English Name: Country mallow
  Propagation: By seeds
  Part used: Leaves, bark, seeds ands roots
  Flowering Period: March-Jun
- **Chemical constituents:** Leaves contain mucilage, tannin, organic acid and traces of Asparagin and ash, also containing alkaline sulphates, chlorides, magnesium phosphate and calcium carbonate.
- **Medicinal uses**: This plant is commonly used to expel worm. Seeds are laxative. Leaves demulcent, locally applied to, wounds, boils, ulcers and to painful part of the body; decoction is used in toothache. The tender gums are given internally for inflammation of bladder; infusion leaves or roots are demulcent and diuretic; prescribed in fever, chest infection. Bark is astringent and diuretic.

- ***Acacia modesta* wall.**
  Family: Mimosaceae
  Local Name: Paleasa
  English Name: Arabic tree
  Propagation: By seeds
  Part Used: Gum from the bark, wood, leaves
  Flowering Period: March-April
- **Medicinal Uses:** The gum of this plant is cooked and then grinds it, after grinding. It is used for the pain of body parts. The gum obtained from the bark is used as tonic, stimulant and demulcent. It is a timber and fuel wood species and is used for hedging. Goats and camels browse leaves. It is a honey bee species.

- ***Acacia nilotica* Delile**
  Synonym: *Acacia Arabica* Willd.
  Family: Mimosaceae
  Local name: Kikar
  English Name: Indian gum Arabic tree
  Propagation: By seeds
  Part used: Pods, leaves, bark and gum
  Flowering Period: July-Aug
- **Chemical constituents:** Bark yield several polyphenolic compounds, catechin, gallic acid, chlorogenic acid, sucrose and tannin. Gum contains galactose, L-rhamnose, L-arabinose and its derivatives. Seeds contain amino acids, fatty acids and ascorbic acid along with tannin as the major constituent.
- **Medicinal uses**: Pods: decoction beneficial in urino-genital diseases. Leaves: infusion of tender leaves used as an astringent and remedy for diarrhea and dysentery; Bark: decoction used as a gargle in sore throat and toothache (Branches are used as toothbrushes for its germicidal property); dry powder applied externally in ulcers; gum: astringent and styptic.

- ***Achyranthes bidentata* Blume**
  Synonym: Nil
  Family: Amaranthaceae
  Local name: Shopoza beta
  English Name: chaff flower
  Propagation: By seeds.

Part used: Tuberous roots.
Flowering Period: Aug-October

- **Chemical constituents:** Tuberous roots contain triterpeniod saponins, β-sitosterol and stigmastrol.
- **Medicinal uses**: The roots possess anti-inflammatory and uterotonic properties. The drug is indicated for hypertension, confusions and sore throat. It is also used for placenta retention. The decoction of leaves is used as blood purifier. The leaves are burned to ashes and externally applied to boils. Crushed root is applied over cuts and injury to stop bleeding.

- ***Achyranthes japonica* (Miq.) Nakai**
  Synonym: Nil
  Family: Amaranthaceae
  Local name: Shopoza beta
  English Name: Japanese chaff flower
  Propagation: By seeds.
  Part used: Root
  Flowering Period: Aug-October
- **Chemical constituents:** Seeds contain insect repelling hormones like rubrosterone, ecdysterone and inkosterone while root contain triterpenoid, saponin.
- **Medicinal uses:** Analgesic, antispasmodic, uterine stimulating, diuretic, hypotensive, anti allergic & anti-inflammatory.

- ***Albizia lebbeek* (L.) Benth**
  Synonym: Nil
  Family: Mimosaceae
  Local name: Sreen
  English Name: Siris tree
  Propagation: By seeds.
  Part used: Bark, Seed, Wood and Flowers
  Flowering Period: March-May
- **Chemical constituents:** The bark yield tannins, friedelin and β-sitosterol. Seeds gave crude protein, calcium, phosphors, iron, niacin an ascorbic acid. Amino acid composition of the protein is: arginine, histidine, leucin, isoleucine, lysine, methionine, phenylalanine, threonine, tyrosine and valine.
- **Medicinal Uses:** The stone of surma are kept inside the trunk of this plant for one or two month then wash this stone, after washing the surma are grind and used for eye diseases. Bark and seeds are used as restorative, astringent, tonic, diarrhea, dysentery and gonorrhea. It is useful in various conditions of cough, asthma, enlarged cervical glands, skin eruption, wounds, ulcers, inflammation, and all type of poisoning including snakebite. A flower past is applied over forehead for getting relief from headache while bark past is applied on face to cure pimples.

- ***Calendula officinalis* L.**
  Synonym: Nil
  Family: Asteraceae
  Local name: Zair gulai
  English Name: Marigold
  Propagation: By seeds
  Part used: Leaves flowers
  Flowering period: March-April
- **Chemical constituents:** Triterpenes, resins, glycosides, volatile oil, sterols, flavonoids, mucilage and caroteins.
- **Medicinal uses:** Anti inflammatory, relieves muscle spasms, astringent, prevent hemorrhaging, detoxifying. The shoot of this plant is applied to wounds. It is cultivated for ornamental purposes. It is also honey bee species.

- ***Calotropis procera* (L.) R.Br.**
  Synonym: Nil
  Family: Asclepiadaceae
  Local name: Spalmaka.
  English Name: Maar milk-wee.
  Propagation: By seeds
  Part used: All parts of the plants
  Flowering Period: June-October
- **Chemical constituents:** Cardiac glycosides, calotropin, uscharin, calotoxin, and gigantin.
- **Medicinal Uses:** The dried whole plant is good tonic, expectorant and anthelmintic. The root bark is febrifuge, expectorant, anthelmintic and laxative and is useful in intestinal worms and cough. The powdered root promotes gastric secretion while leaves are smoked for curing asthma & bronchitis. Its leaves are also used for relief of pain and recovery of wounds and swelling. A drop of its milky latex is locally used to eject thorn or spine if broken in the skin. The smoke of its leaves is good to shatter mosquitoes.

- ***Capparis deciduas* Edgew.**
  Synonym: *Capparis aphylla* Roth
  Family: Capparidaceae
  Local name: Kara (Krerha)
  English Name: Caper, Berry
  Propagation: By seeds
  Part used: Roots, Fruit, Branches, Wood,
  Flowering Period: June-July
- **Chemical constituents:** capparin, capparillin , capparinin, capparidisine and β–sitosterol.
- **Medicinal Uses:** The roots are bitter, expectorant, digestive, antibacterial and tonic. They are useful in eruption, swelling, chronic, ulcer, hiccough, asthma, vomiting gout, and general debility. The unripe fruit is used as anthelmintic and cardiac disorder. It is also used for those animals which eat little grass (improve stomach quality). Wood of the plant is used as fuel.

- ***Carthamus oxycantha* M. B**
  Synonym: Nil
  Family: Asteraceae
  Local name: Kunzala
  English Name: Jeweled distaff thistle
  Propagation: Seed
  Part used: Seed
  Flowering Period: May-July
- **Chemicals constituents:** Leaves contain crude proteins & carbohydrates while Seeds contain crude fats and crude fiber as the major components.
- **Medicinal Uses:** It is used as a fodder for cattle. Oil is obtained from this plant which is used as a brain tonic. Commonly used as fuel, seeds are used by children as a food.

- ***Cassia fistula* L.**
  Synonym: *Cassia rhombifolia* Roxb.
  Family: Caeesalpiniaceae
  Local name: Gerdanali
  English Name: Indian laburnum, Purging fistula,
  Propagation: By seeds
  Part used: all parts of plants
  Flowering Period: April - December
- **Chemical constituents:** It contain sennosides A and B, rhein and its glucosides, barbaloin, aloin, formic acid, butyric acid, their ethyl esters and oxalic acid, acetyl acid, tannins, and reducing sugars.
- **Medicinal Uses:** The roots are astringent, cooling, febrifuge and tonic and are used in reducing fever in skin diseases, tuberculosis and burning sensation. The bark is

laxative, anthelmintic, emetic, febrifuge and diuretic and is useful in boils, ringworm, colic, fever, diabetes and cardiopathy. Flowers are bitter, expectorant and demulcent and are useful in skin diseases, burning sensation, dry cough and bronchitis. The fruits are sweet, cooling, diuretic and are useful in burning sensation, skin diseases, colic, inflammations, jaundice, cardiac disorder and general debility.

- ***Chenopodium album* L.**
  Synonym: Nil
  Family: Chenopodiaceae
  Local name: Surma, Batho (Punjabi)
  English Name: Wild spinach
  Propagation: By seeds
  Part used: Whole plant.
  Flowering Period: February-march.
- **Chemical constituents:** Lucine, isoleucine, lysine, methionine, phenylalanine, threonine, valine and tryptophan, alkaloids, trigonelline and chenopodine.
- **Medicinal uses:** It is sweet, digestive, laxative antihelmintic and is used in peptic ulcer, cardiac disorder and spleen disorder. The roots are used in urinary diseases, jaundice, and rheumatism. Fruit and root are considered as antidote to snake poison. This plant is mostly used as vegetable.

- ***Chenopodium ambrosioides* L.**
  Synonym: Nil
  Family: Chenopodiaceae
  Local name: Ranzekka
  English Name: Wormseed
  Propagation: By seeds
  Part used: Whole plant.
  Flowering Period: February-March.
- **Chemical constituents:** Wormseed contains a volatile oil, saponins and triterpenoid Ascaridol is a powerful worm-expellent.
- **Medicinal uses:** This is principally known for its ability to expel roundworms and hookworms. Leaves have antispasmodic properties. Juice extracted from the whole plant is applied as a wash for haemorrhoids. Used in the treatment of spasmodic coughs and asthma. It is also used as digestive remedy, being generally taken to settle colic and stomach pains.

- ***Citrullus colocynthis* Schard**
  Synonym: Nil
  Family: Cucurbitaceae
  Local name: Maragheniey
  English Name: Colocynth, Bitter apple
  Propagation: By seed and veget: methods
  Part used: Roots and fruits
  Flowering period: Jan-Jun
- **Chemicals constituents:** the juice of the fruit contains α-elaterin, cittrulluin, citrulluene and citrulluic acid. A dihydric alcohol, citrullol and p-hydrobenzyl have been isolated from the dried pulp and the unripe fruit, respectively. The peel-free flesh of ripe fruits contains yellow, bitter oil, citbittol.
- **Medicinal uses:** The root is purgative and is used for treating mammillitis in children. The fruits are bitter and cooling and are used in tumors, ulcer, asthma, bronchitis and tubercular gland of the neck.

- ***Convolvulus arvensis* L.**
  Synonym: Nil
  Family: Convolvulaceae
  Local name: Parvathiy.
  English Name: field bindweed
  Propagation: Seeds

Part used: shoot and leaves.
Flowering Period: December-January

- **Chemical constituents:** alkaloids, Phenolic compounds and sterols.
- **Medicinal Uses:** It is used as a Saag, which is used by children for removal of warm from Intestine. Decoction is used as anthelmintic. It is also applicable in skin disorders.

- ***Cuscuta reflexa* Roxb**
Synonym: Nil
Family: Cuscutaceae
Local name: Zara parwathye or Samyo .
English Name: Dodder
Propagation: Seeds
Part used: Stem, fruit and seeds.
Flowering Period: March-April
- **Chemical constituents:** The fresh plan yield scoparone, melanettin, quercetin and hyperoside. Field grown plants have shown the ability to synthesis quercetin 3-0-galactoside and 3-0-β-glucoside.
- **Medicinal Uses:** The whole plant is grinded and the juice is used for purification of blood. It also used for irritation, as anthelmintic, carminative, alternative, purgative and diuretic. Sometime used in jaundice, joint pains, paralysis and vomiting. Stem is used in bilious disorders.

- ***Cynodon dactylon* (L).Pers**
Synonym: Nil
Family: Poaceae
Local name: Barowa
English Name: Dhub grass, Barmuda grass
Propagation: By roots and vegetative methods.
Part used: Whole plant.
Flowering Period: June-July
- **Chemical constituents:** β-ionone, 2-propionic, 4-hydroxybenzoic, 2-propionic and 3-methoxy-4-hydroxybenzoic acids, phytol, β-sitosterol-d-glucoside, stigmasterol acetate, phytone, glycosides, saponins, tannin, flavonoids and carbohydrates.
- **Medicinal Uses:** the plant is astringent, cooling, haemostatic, tonic and is used in wound healing. The whole plant is grind and used to stop bleeding. When someone cut his finger then the fresh leaves and stem are grinds in mouth and then applied on wound to stop bleeding. Its juice is mixed with milk and is used for curing bleeding piles, irritation of urinary tract and for vomiting.

- ***Cyperus rotundrus* L.**
Synonym: Nil
Family: Cyperaceae
Local name: Delloca
English Name: Nut grass, coco grass.
Propagation: By vegetative methods.
Part used: Whole plant (Rhizome)
Flowering Period: June-July
- **Chemical constituents:** The rhizome yield an essential oil (0.5-1.25 %) consisting of cyprene, cyperol, a-cyprone, cineol and L-a-pinene, together with starch.
- **Medicinal Uses:** The rhizome gives successful result in the treatment of meanstruation, dysmenorrhoea, gastralgia, dyspepsia, diarrhea and vomiting. It is also used as a laxative for cattle.

- ***Dalbergia sissoo* Roxb.**
Synonym: Nil
Family: Papilionaceae
Local name: Shawa
English Name: Sisso

Propagation: By seeds and vegetative methods.
Part used: Roots, leaves, branches and wood,
Flowering Period: March-April

- **Chemical constituents:** Antifungal essential oil. The roots contain the isoflavones, biochanin-A, tiobioside. It also contains (S)-4-methoxydalbergione, (R)-Iatifolin and dalbergin. The fatty acids composition of the seed oil is : palmitic, 16.2; stearic, 7.0; oleic, 14.6; linolic, 52.5; and linolenie, 8.0%.
- **Medicinal uses:** The roots are astringent and constipating and are useful in diarrhea and dysentery. The leaves are digestive, diuretic and stimulant and are used in gonorrhoea, diarrhea, dysentery, vomiting and burning. Wood is used as a fuel and also in making furniture. Ash is extensively used in making snuff. Younger leaves are used by sterile woman for fertility.

- ***Datura Metel* L.**
  Synonym: Nil
  Family: Solanaceae
  Local name: Bherhbaka
  English Name: White Thorn apple
  Propagation: By seeds and vegetative methods.
  Part used: Leaves and flowers
  Flowering period: Aug-November
- **Chemical Constituents:** The whole plants especially the leaves and flowers contain alkaloids, Scopolamine, hyoscyamine, as well as vitamin C.
- **Medicinal uses:** Leaves are mostly used for cough, asthma, gastric ulcers, haemorrhoids and sickness. The dried leaves and flowers are cut into small chips and are used in anti asthmatic cigarettes.

- ***Datura stramonium* Linn.**
  Synonym: *D.Innixia* Miller
  Family: Solanceae
  Local name: Barbaka
  English Name: Thorn apple.
  Propagation: By seeds and vegetative method.
  Part used: Leaves, seeds and flowers.
  Flowering period: May-July
- **Chemical constituents:** 45 % tropane alkaloids, flavonoids, withanolides, coumarins and tannins.
- **Medicinal uses:** At low doses, thorn apple is a common remedy for asthma, cough, and muscle spasm. It relaxes the muscles of gastrointestinal, bronchial and urinary tracks, and reduces digestion and mucus secretion. Thorn apple may be externally applied to relieve rheumatic pains and wound recovery. Seeds and leaves are smoked for their narcotic action. The juice of flower petals is used for ear pain. Leaves are mixed with mustered oil and are used as poultice in skin disorders. The flower are collected, dried and then grinded. From this small amount of powder called “TALAY” is eaten along with water very early in the morning before breakfast, which is very useful for asthma. Similarly some people use to eat two seed of *Datura’s* fruit daily about for epilepsy locally called “MERGII”. Their fruit’s juice is used for curing dandruff and falling of hair.

- ***Dodonaea viscosa* (L.) Jaeq**
  Synonym: Nil
  Family: Sapindaceae
  Local name: Sanatha.

English Name: Hopbush
Propagation: By seeds
Part used: Leaves, bark & oil
Flowering Period: April-June

- **Chemical constituents:** Flavonoids, Alkaloids, Tri-terpenoids, Saponins, Tannins, Amino acid, Anthraquinones, Steroids, Proteins and Cardiac glycosides
- **Medicinal uses:** It is grow as a hedging plant and also for ornamental purposes. It is used as fuel. Leaves are bitter and astringent, used in swelling and burns. Bark is employed in astringent, bath and fermentation. The *dodonia viscosa* oil are used for snake bite

- ***Eclipta prostrata* L.**
  Synonym: *E. alba* (L) Hassk
  Family: Asteraceae
  Local name: Theriza
  English Name: Eclipta
  Propagation: Seeds and veget: method.
  Part used: Whole Plant
  Flowering period: Through out the year
- **Chemical constituents:** Eliptine, acetones, thiophene-derivatives alkaloids and nicotine.
- **Medicinal Uses:** Remedy for snake venom, anti-inflammatory. Used in eruption and the Juice of this plant are used in fever and liver diseases.

- ***Equisetum hyemale* L.**
  Synonym: Nil
  Family: Equisetaceae
  Local name: Bankai
  English Name: Common Horsetail
  Propagation: By vegetative method only.
  Part used: Whole plant.
  Flowering period: March-April
- **Chemical constituents:** Dimethylsulfone, aconitic acid, palustrine (Alkaloids), nicotine, caffeic acid, ferulic acid and silicon compounds.
- **Medicinal uses:** Anticancer, diuretic, anti hypersensitive, anti inflammatory and antispasmodic. It also has toxic effect.

- ***Eucalyptus globulus* Labill.**
  Synonym: Nil
  Family: Myrtaceae
  Local name: Lochai.
  English Name: Eucalyptus, blue gum
  Propagation: By seeds and vegetative method
  Part used: Leaves stem and oil.
  Flowering Period: March-May
- **Chemical constituents:** Eucalyptin, 8-desmethyleucalyptin, sideroxylin, 8-desmethylsideroxylin, quercetin, quercitrin, quercetol and ite 3deglucoside, chrysin, rutin hyperoside, caffeic, frolic, gallic, maslinic and oleanolic acids.
- **Medicinal uses:** The oil is acrid, bitter, astringent, antiseptic, stimulant, cardiotonic, insect repellent and is useful in tuberculosis, chronic cough, asthma burns, thread worm infection, cardiac debility, skin diseases and chronic fever. It was introduce for control of water logging and salinity. Wood is used in making furniture and as a fuel. Leaves are used in the form of cigarettes for asthma while branches are used in making agriculture appliances.

- ***Euphorbia pekinensis* Rupr.**
  Synonym: Nil
  Family: Euphorbiaceae
  Local name: Parparai
  English Name: Da ji

Propagation: By seeds and vegetative method
Part used: Whole plant
Flowering period: February-April

- **Chemical constituents:** Da ji contains euphorbon.
- **Medicinal uses:** Da ji is classified as a toxic herb in Pakistan herbal medicine. And therefore it is prescribed only for relatively serious illness. It is used for the treatment of kidney problems, especially nephritis. Da ji is applied externally to inflamed sores to reduce swelling.

- ***Ficus religiosa* L.**
  Synonym: Nil
  Family: Moraceae
  Local name: Pippal
  English Name: Peepal tree
  Propagation: By seeds and vegetative method.
  Part used: Whole plants parts.
  Flowering period: October-November
- **Chemical constituents:** Arabinose, mannose, glucose, phenolic glucoside ester, flacourtin. Steroid, ramontoside, β-sitosterol and its β -D-glucopyranosid
- **Medicinal uses:** The bark of the plant is boiled in the water and the aqueous extract has antibacterial activity and is given to the jaundice and hepatitis patients. Paste of the powdered bark is good absorbent for inflammatory, swelling and burns. Leaves and tender shoots are recommended for wounds and skin diseases. Fruit & seed are used as cooling and laxative. Infusion of bark is given internally in scabies. The latex is good for neuralgia, inflammation and hemorrhages.

- ***Medicago sativa* L.**
  Synonym: Nil
  Family: Papilionaceae
  Local name: Malkindye.
  English Name: Alfalfa, Lugerne
  Propagation: By seeds and vegetative method
  Part used: Leaves and young stem.
  Flowering period: April-May
- **Chemicals constituents:** Alfalfa contains isoflavones, coumarins, alkaloids, vitamins and prophyrins.
- **Medicinal uses:** It is mostly used as a saag and is more useful as a food and fresh fodder than as a medicine. Also used as a laxative, digestive, tonic and proved useful in treating problems relating to menstruation.

- ***Melia azedarach* L.**
  Synonym: Nil
  Family: Meliaceae
  Local name: Bakanrha.
  English Name: China berry, bead tree, hoop tree.
  Propagation: By seeds and vegetative method.
  Part used: Whole plant. (Bark)
  Flowering period: March-April.
- **Chemical constituents:** The stem-bark and root-bark contain the alkaloid azaridine (margosine), sterols and tennins. The leaves yield alkaloid paraisine and the flavonoid rutin. The seeds are reaching in fatty oil consisting of stearic, palmitic, oleic and lioleic.
- **Medicinal uses:** The internal silky layer of root bark is used in treating Vaginal infection and ripens fruit is used against diabetes. Bark is used as cathartic, emetic and also applied as poultice to relieve nervous and headaches. Seeds are used in rheumatism; Gum is used as remedy for spleen enlargement. Precaution

must be taken because of the drug's high toxicity.

- ***Mentha royleana* L.**
  Synonym: *Mentha sylvestris* L.
  Family: Labiatae (lamiaceae)
  Local name: Velana
  English Name: Pipermint
  Propagation: By seeds and vegetative method
  Part used: Young stem and leave.
  Flowering period: June-August
- **Chemical constituents:** olcancolic acid, apigenin, cyclocommunol, morusin, cyclomorusin, kuwanon C, daucosterol, ursolic acid, 63-sitosterol
- **Medicinal uses:** The dried leaves are grind in to powder and mixed with salt then used it for the purposes of gas problem or as a carminative, digestive, diarrhea and dysentery. The leaves are used for cleaning of teeth and also used as a Saag. To induce labor pain use peppermint slug (Mentha piperita L) intra-vaginally once daily till pain starts.

- ***Morus alba* L.**
  Synonym: Nil
  Family: Moraceae
  Local name: Spin thith.. Tut (urdu).
  English Name: White fruited mulberry.
  Propagation: By seeds and vegetative method.
  Part used: All parts
  Flowering period: March-April
- **Chemical constituents:** liriodendrin, 3-acetyl-α-amyranol, Oleanolic acid, Ursolic acid, 3-methoxy-4-hydroxy-benzoic acid, 3-methoxy-4-hydroxy-benzaldehyde, β-sitosterol, daucosterol.
- **Medicinal uses:** It is used for sore throat, dyspepsia and melancholia. A decoction of leaves is used as gargle in inflammation of throat. Leaves are used in silkworm diseases, as diaphoretic and emollient. Wood is used in making furniture and sports goods. Fruit is edible and is used as cooling and laxative. Fruits are also used in kidney failure and B.P patient because it lowers the B.P. Root is known as anthelmintiic and astringent. Root bark is used for cough, oedema and injury.

- ***Morus nigra* L.**
  Synonym: Nil
  Family: Moraceae
  Local name: Taer Tut.
  English Name: Black fruited mulberry.
  Propagation: By seeds and vegetative method.
  Part used: Leaves, fruit, branches, wood
  Flowering period: March-April.
- **Chemical constituents:** Lupeol, oleanolic acid, artemitin, jaceidin and 6-hydroxy kaemferol-3,5,7-trimethylether.
- **Medicinal uses:** Fruits is edible, emollient and laxative. Leaves are used for cleaning throat, and as cooling agent, anthelmintic and astringent. Leaves are also used in folklore, in thatching and hedging. Flexible branches are used making baskets. Wood is used in making furniture and sports goods. It is shade tree, fuel wood tree; honey bee species and leaves are used as fodder.

- ***Nerium oleander* L.**
  Synonym: *Nerium indicum* Mill.
  Family: Apocynaceae
  Local name: Gandari. (Kaneer in Urdu).

English Name: Oleander
Propagation: By cutting.
Part used: All part of the plant
Flowering period: April-October.

- **Chemical constituents:** All part of the plant is poisonous. Root, bark and seed contains glycosides, neriodorin and karabin,
- **Medicinal uses:** Grow for ornamental purposes. Bark is used in skin diseases, especially leprosy. Root is used for abortion. Root paste is useful in scorpion sting and snake bite .Decoction of leaves is applied externally to reduce swellings. Dogs are died by eating its stem (people observation). They are used in cardiac asthma and ulcer. The root bark is very specific for ringworm. The leaves are powerful repellent and are used for scabies and haemorrhoids. The juice of tender leaves is good for ophthalmia. The flowers are reported to have the properties of purifying the air.

- ***Oxalis corniculata.* L.**
  Synonym: Nil
  Family: Oxalidaceae
  Local name: Tarveka, Khatti-boti (Urdu)
  English Name: Yellow sorrel
  Propagation: By seeds
  Part used: Whole Plant.
  Flowering period: Through out the year
- **Chemicals constituents:** glyxylic acid, oxalic acid, vitexin and its derivatives. Lipids, vitamin C, fatty acid and alpha and beta tocopherols.

- **Medicinal uses:** Leaves of this plant are eaten by the children for convulsions and for healing fracture bones. The grind leaves are eaten as chutney to help purify the blood. The leaves juice is also applied to open wounds. The crushed leaves are also applied to the head of the babies. An infusion of leaves is used to treat indurations of breasts and watery vaginal discharges. It is also used to treat wounds and swelling beneath tongue. People use the leaves to treat body pains and internal bleeding. Juice of the plant is given to the stomach troubles peoples. It is also used to clean rusted vessels.

- ***Papaver somniferum* L.**
  Synonym: Nil
  Family: Papaveraceae
  Local name: Apeendoda.
  English Name: Opium poppy
  Propagation: By seeds and vegetative method.
  Part used: Latex, flowering tops, fruits.
  Flowering period: March-April
- **Chemical constituents:** The latex is rich in alkaloids, morphine, codeine, thebaine, nacrocotine, narceine and papaverine; organic acids, meconic acid, malic, tartaric, citric, acetic and succinic acids; it also contain protein, dextrose and pectin.

- **Medicinal uses:** The latex possesses hypnotic and analgesic properties. It is also effective in heart failure. The capsules from which the latex has been drawn off are used in treating chronic cough, cold and diarrhea. Their seed is used to increase milk production in women. It is used as narcotic plant, which is locally prepared from this plant; it is also grow as ornamental plants. Also yield poppy oil. Seed are used in confectionery. Latex mixed with wax

is rubbed on chest and ribs of children in asthma.

- ***Peganum harmala* L.**
  Synonym: Nil
  Family: Zygophyllaceae
  Local name: Spelani
  English Name: Harmala
  Propagation: By seeds and veg; method
  Part used: Seeds and root
  Flowering period:

- **Chemical constituents:** It contains up-to 4% indol alkaloids, which are similar in action the other alkaloids.

- **Medicinal Use:** Despite of its long history as an aphrodisiac herb, harmula is little used in herbal medicine due to its potential toxicity. The seeds have been taken to treat eye disorder and to increase the volume of breast-milk production. The smoke of burning seeds is considered to be used for various diseases (locally called Bad nazer).

- ***Physalis angulata* L.**
  Synonym: Nil
  Family: Solanaceae
  Local name: Hotelie
  English Name: Cape gooseberry, wild tomato.
  Propagation: By seeds and vegetative method.
  Part used: Whole plant
  Flowering period: January-Feb

- **Chemical constituents:** Vitasteroids, selenium, zinc, copper and steroidal lactones, acetylecholine, glcoalkaloids, flavonoid, phygrine, physalins, funiferine, bitasterol and withanolides.

- **Medicinal Uses:** Anti-inflammatory, antibacterial, antitumour, hypertensive, antibody enhancement, protein synthesis inhibition, antiviral, to facilitate childbirth to treat infertility in women and dengue fever.

- ***Physalis minuma* L.**
  Synonym: Nil
  Family: Solanaceae
  Local name: Unknown
  English Name: Country gooseberry
  Propagation: By seeds & veg. method
  Part used: Whole Plant
  Flowering period: June-July
- **Chemicle constituents:** Alkaloids.

- **Medicinal Uses**: The plant is bitter, sweet, cooling, diuretic, laxative and tonic. It is useful in burning sensation, gastropathy, colic, ulcer, cough and bronchitis. It is a very poisons plant also.

- ***Plantago major* L.**
  Synonym: *P. officinarum* Crantz
  P. maxima Ruching.
  Family: Plantaginaceae
  Local name: Ispaghual.
  English Name: Great plantain
  Propagation: Seeds and vegetative method
  Part used: Leaves, fruits, seeds
  Flowering period: April-May.

- **Chemical constituens:** Alkaloids, choline, steroids, plantaenaloside, flavonids, fumaric, ferulic, salicylic acids and planteose.

- **Medicinal uses:** Mostly used for complaints of toothache, earache, sharp pain in eyes due to toothache

and inflammatory earache. Extract of leaves improve blood clotting when applied on wound i.e. help in healing of wounds. It is demulcent in dysentery, piles and urinary tract diseases. It is also used as a fodder of cattle.

- ***Plantago ovota* Forssk.**
  Synonym: Nil
  Family: Plantaginaceae
  Local name: Ispaghual.
  English Name: Ispaghula, Spogel seeds.
  Propagation: By seeds and vegetative method.
  Part used: Seeds.
  Flowering period: April-May
- **Chemical constituents:** Linolenic, oleic. palmitic, stearic, lignoceric. The embryo yield 14.7 % of linoleic acid rich oil.
- **Medicinal uses:** Used as a fuel and fodder for cattle. The seed of the plants are used for diarrhea, expectorant, aphrodisiac and for stomach problem. The seed are mixed with water sugar and milk then given to stomach problem patient before eating any thing.

- ***Polygonum dichotomum* Blume.**
  Synonym: *Persicaria dichotoma* Blume
  Family: Polygonaceae
  Local name: Howar
  English Name: Vietnam Plant
  Propagation: By seed and vegetative method
  Part used: Whole plant
  Flowering period: July-Oct

- **Chemicals constituents:** crude protein and fats
- **Medicinal uses:** mostly used for remedies for neuralgia, and to treat urinary tract infections. It is also used to treat gonorrhea.

- ***Portulaca oleracea* L.**
  Synonym: Nil
  Family: Portulacaceae
  Local name: Woorkhora.
  English Name: Garden purslane.
  Propagation: By seeds and vegetative method.
  Part used: Whole plant
  Flowering period: May-June.
- **Chemical constituents:** It contains carotene, vitamin C, B1, B2, PP, Ca, Mg, Na, K salts; organic acids, nicotinic and oxalic acid.
- **Medicinal uses:** The whole plant, except the root, is used as antibacterial, anti-inflammatory and anthelminthic. The juice extracted from 100g of fresh plant are diluted with water and serves as an anthelminthic and ascariasis. It is refrigerant, laxative and alterative, also used in lower abdomen and urinary tract problems.

- ***Ricinus communis* Linn.**
  Synonym: Nil
  Family: Euphorbiaceae
  Local name: Raned
  English Name: Castor Bean
  Propagation: By seeds and vegetative method.
  Part used: seed, leaf, berries, bark, root
  Flowering period: Through out the year.

- **Chemical constituents:** Their leaf contains a volatile oil, tannins and vitamin C; the barriers contain flavonoids, pectin, tannins, vitamin C and potassium.

- **Medicinal uses:** The leaves help to reduce blood volume and that is why used to lower the blood pressure. The leaves are also used as gargle for sore throats and mouth ulcer. Due to high vitamin C content the help to improve resistance to infection and make a valuable remedy for treating colds and flu. Seed of the plant is used by the women for family planning purposes. A poultice of leaves is applied to boils, swelling and to relieve pain from the joints. The bark is used for healing wounds and sores. A paste of root is applied for toothache. The dry roots are used as febrifuge the leaves are warmed over five and applied to the breast of women to increase the milk secretion. Oil obtained from the seed is used as laxative and is given to children in case of constipation. Sometime it is used to start labor pain and early delivery.

- ***Salix babylonica* L.**
  Synonym: Nil
  Family: Salicaceae
  Local name: Wala
  English Name: Willow
  Propagation: By cutting
  Part used: Whole tree.
  Flowering period: March-April

- **Chemical constituents**: Phenolic glycosides, salicylic acid, flavonoids and tennins.
- **Medicinal uses:** The leaves of this plant are grind to extract water juice. This extract is then used for ear pain (1-2 drops three times daily). It is a timber, fuel and shade tree. In autumn, when most of the fodder tree shed their leaves, it remains green, so serve as a valuable fodder in autumn. Its roots are very successful against water erosion. It is also used in making water- mills due to its stiff hard wood.

- ***Salvadora oleoides***
  Synonym: *Salvadora persica* L.
  Family: Salvadoraceae
  Local name: Palimoo
  English Name: Toothbrush, salt brush
  Propagation: By seeds and vegetative method
  Part used: Whole Plant.
  Flowering period: June-July
- **Chemicals constituents:** Alkaloids, trim ethyl amine, beta-sitosterol and sulphur from the root.
- **Medicinal Uses:** Fruit is edible and wood is used as a fuel. Meswak (toothbrush) is formed from the root and tender twigs of this plant. The bark is good for gastropathy

- ***Sida cardifolia* L.**
  Synonym: Nil
  Family: Malvaceae
  Local name: Khoso-beta
  English Name: Sida
  Propagation: By seeds
  Part used: Whole plant
  Flowering period: Aug-Sept.
- **Chemical Constituents:** Sida contains alkaloid, a fatty oil, phytosterol, resin and resin acids and potassium nitrate.

- **Medicinal uses:** The plant is reputed for its tonic properties. The plant part is used for the fever, colic, nervous disorders, general debility and heart irregularity. The roots juice is used for healing of wounds. The bark of the plant is effective in curing facial paralysis and the leaves are used for

the bloody flux. It also improves sexual strength.

- ***Solanum nigrum* L.**
  Synonym: *Solanum rubrum* Mill.
  Family: Solanaceae
  Local name: Khun-se-bai.
  English Name: Black night-shade.
  Propagation: By seeds and vegetative method.
  Part used: Fruit, Leaves and young stem.
  Flowering period: Throughout the year
- **Chemical constituents:** Leaf is a rich source of riboflavin, nicotinic acid and vitamin C, besides this ß-caroteine and citric acid is also present. Fruit contain glucose and fructose, vitamin c and ß-carotene.
- **Medicinal uses:** Successfully used in hair diseases. It is used as vegetable and fresh fodder. The leaves are used externally in joints pain and skin disorder. The decoction of the berries and flowers is useful in cough, rat bit, bronchitis, pulmonary tuberculosis, fever, diarrhea and hydrophobia. Fruit are carminative tonic and diuretic. The juice of plant is also used for liver diseases especially for jaundice, hepatitis.
- ***Solanum surattense* (Burn.) F**
  Synonym: *S. xanthocarpum* schrad & wendl
  Family: Solanaceae
  Local name: Wara-mara-ghinrhye.
  English Name: Yellow-berried nightshade
  Propagation: By seeds
  Part used: whole plant
  Flowering period: June-July
- **Chemical constituents:** Fruit yield carpesteral and gluco-alkaloid, Solasodine and solanocarpine.
- **Medicinal uses:** This plant is used for eye irritation and for abdomen pain. It is also useful in dental pain and ccough. Crushed fruits are externally applied on head in melancholia and other mental disorders. Fruit decoction is used as gargle in toothache. The grinds fruits then used for pain and other internal diseases. Also used as camel's food.

- ***Taraxacum officinal* Webber**
  Synonym: Nil
  Family: Asteraceae
  Local name: Zachigul.
  English Name: Common dandelion, blow ball
  Propagation: By seeds
  Part used: Flower, root and leaves.
  Flowering period: March-April.
- **Chemical constituents:** It contains a bitter crystalline substance taraxacin, choline, the root yields tannin and some ethereal oil. The leaves contain vitamin C and the flowers contain xanthophylls. It also contains Potassium and Vitamin A.
- **Medicinal uses:** Root is diuretic, tonic laxative. The tender leaves are used as a salad when harvested in spring; the plant is a useful remedy for chronic disorders of kidney and liver. It has been use for gallstones, jaundice, muscular rheumatism against tumors and other hepatic diseases. It is also an ornamental plant.
- ***Trachyspermum ammi* (L) Sprague**
  Synonym: Nil
  Family: Apiaceae
  Local name: Sperkiye.
  English Name:
  Propagation: By seeds
  Part used: Seeds
  Flowering period: May-July

- **Chemical constituents:** carvone (46%), limonene (38%), and dillapiole (9%)

- **Medicinal uses:** Used in stomach disorders also used for digestion purposes and given to animal in gastric problems.

- ***Typha orientallis* J. Preslw.**
  Synonym: Nil
  Family: Typhaceae
  Local name: Deela
  English Name: Cat tail.
  Propagation: By Rhizomes
  Part used: whole plant including pollens.
  Flowering period: July-August
- **Chemical constituents:** It contains Cadinene and alkanes.
- **Medicinal uses:** It is used in hyper cholesterol and haematemesis. Its ash is used on wounds. The inflorescence is cooked as vegetable. Ropes have been formed from its leaves which are used in weaving "Charpais" leaves are also used in thatching roof and making baskets. Dried leaves are used as fuel.

- ***Vitex negundo* L.**
  Synonym: Nil
  Family: Verbinaceae
  Local name: Marmandye.
  English Name: Chaste tree
  Propagation: seeds and vegetative method
  Part used: Leaves, roots and branches.
  Flowering period: April-May
- **Chemical constituents:** Leaves contain two types of alkaloid, nishindine and hydrocotylene. Fresh leaves yield pale greenish yellow oil.

- **Medicinal uses:** This plant is highly medicinal and it is commonly used by the local people for the wheat protection from insect. Branches are used as tooth brushes. Leaves are crushed and mixed with wheat flour and used on skin disorder. Leaves are smoked to relieve headache. Roots are used to relieve back pain. The flowers are useful in diarrhea, cholera, fever and cardiac disorders.

- ***Withania somnifera* (L.) DUNAL.**
  Synonym: Nil
  Family: Solanaceae
  Local name: Shapyange
  English Name: Winter cherry
  Propagation: By seeds
  Part used: Leaves, roots and seeds.
  Flowering period: March-April
- **Chemical constituents:** Roots contains several pyrazole alkaloids. Withasomnine, lactones, withaferein A and withanolides. They also contain starch, reducing sugars, glycosides, withaniol and a natural compound. Withaferin is an anti timorous agent.

- **Medicinal uses:** The tuberous root is astringent and is used in tissue-building and nervous breakdown. Seeds are used in stomach pain and digestions; coagulate milk, regulation of menstrual cycle. Tonic-leaves are used extremely as pain killer in pain and swellings.

- ***Xanthium strumarium* L**
  Synonym: Nil
  Family: Asteraceae
  Local name: Ghaskai / shopoziy
  English Name: Ditch bur, broad cocklebur.
  Propagation: By seeds
  Part used: All parts

Flowering period: June-July

- **Chemical constituents:** The aerial parts of the plant contains a mixture of alkalios which are said to be toxic i.e. the sesquiterpene lactones-xanthinin. The steroisomers-xanthinim and xanthatin. The seeds on solvent extraction yield 30-35 % of semidrying oil, resembling sunflower oil. It has the same taste as other vegetable oils.

- **Medicinal uses:** The does of half to one ounce is recommended in chronic malaria, and urinary diseases. In clinical experiments, its pollen has been found to cause asthma and dermatitis in sensitive persons especially during autumn when the plant is in pre-fruiting stage. The fruits are used as tonic, cooling and demulcent and are given in small pox. The herb is reported to be used in snake bite also.

- ***Ziziphus mauratiana* Lam.**
  Synonym: *Ziziphus jujuba* (Linn.) Gaertn.
  Family: Rhamnaceae
  Local name: Karkanrh Bera
  English Name: Common jujube, Chinese date.
  Propagation: Seeds
  Part used: Fruits, wood, branches, leaves.
  Flowering period: April-May

- **Chemical constituents:** fruits seeds and leaves of this plant contain Carbohydrates, fat, protein, amino acids, anthocyanins. Leaves contain Ruttin. Leucocyanidin is found in bark. betulinic and ceabothic acids is found in wood.

- **Medicinal uses:** It is best honey bee species, timber wood, hedge plant and shade tree. Root of this plant is used in fever, wounds and ulcers, while its bark is astringent and is used in dysentery, diarrhea, gingivitis and boils. Timber used in making ‘’charpais,, for its stiffness. Young leaves are used by the diabetes patient. The leaves of this plant are grinned and the juice is used as shapoo for lengthening hairs.

- ***Ziziphus spinosa* Hu.**
  Synonym: Nil
  Family: Rhamnaceae
  Local name: Mada Bera/ Kobli bera
  English Name: Spiny Chinese date.
  Propagation: By seeds and veg: method.
  Part used: Seeds & Fruit
  Flowering period: April-May

- **Chemical constituents:** jujuphenoside; phenyl glycoside;

- **Medicinal Use:** The plant is used as fodder especially for goat. It is considered that the best honey is that of this *ziziphus* species. Leaves of this plant especially young leaves are used by the diabetes patient. The leaves of this plant are grinned and the juice is used as shampoo for lengthening hairs. The seeds are useful in cough, asthma, wounds, burning sensation, diarrhea and vomiting.

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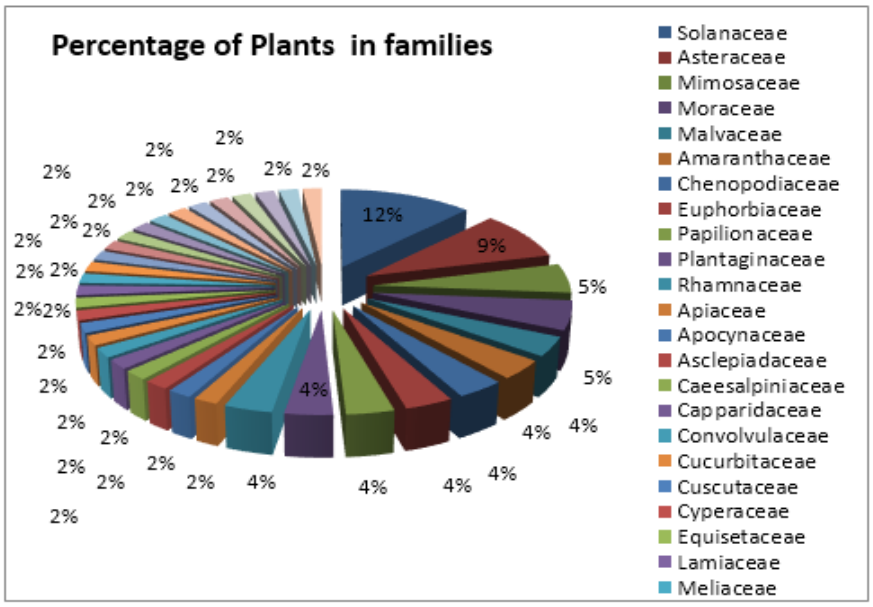
Table 2: Percentage of Families and spp distribution among the families

Families	Plants	%age
Solanaceae	7	12.28
Asteraceae	5	8.77
Mimosaceae	3	5.26
Moraceae	3	5.26
Malvaceae	2	3.51
Amaranthaceae	2	3.51
Chenopodiaceae	2	3.51
Euphorbiaceae	2	3.51
Papilionaceae	2	3.51
Plantaginaceae	2	3.51
Rhamnaceae	2	3.51
Apiaceae	1	1.75
Apocynaceae	1	1.75
Asclepiadaceae	1	1.75
Caeesalpiniaceae	1	1.75
Capparidaceae	1	1.75
Convolvulaceae	1	1.75
Cucurbitaceae	1	1.75
Cuscutaceae	1	1.75
Cyperaceae	1	1.75
Equisetaceae	1	1.75
Lamiaceae	1	1.75
Meliaceae	1	1.75
Myrataceeae	1	1.75
Oxalidaceae	1	1.75
Papaveraceae	1	1.75
Poaceae	1	1.75
Polygonaceae	1	1.75
Portulacaceae	1	1.75
Salicaceae	1	1.75
Salvadoraceae	1	1.75
Spindaceae	1	1.75
Sterculiaceae	1	1.75
Typhaceae	1	1.75
Verbenceae	1	1.75
Zygophyllaceae	1	1.75
Total 36 families	**57Plants**	



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