



Cheek List of Ethnobotanical Plants of Tehsil Colony, Samarbagh, District Dir Lower, Khyber Pakhtunkhwa Pakistan

Shakir Ullah¹, Sawera Iman¹, Said Rafiullah¹, Ruqia Mahmood¹, Parviz Khan¹, Saeed Anwar¹, Zeeshan Khan¹, Rehan Ullah²

¹. State Key Laboratory of Systematic and Evolutionary Botany (LSEB), Institute of Botany Chinese Academy of Science China

¹. Department of Botany, Govt Degree College Smarbagh, Dir Lower Khyber Pakhtunkhwa Pakistan

². Department of Botany, Bacha Khan University Charsadda Khyber Pakhtunkhwa Pakistan

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Corresponding author:

Shakir Ullah

E-mail:

shakirawcum321@gmail.com

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ABSTRACT

An ethnobotanical survey was carried out on the flora of Samarbagh Colony from August 2021 to September 2022. Samarbagh Colony situated in District Dir Lower, in regards to exploring the ethnobotanical potentiality of plants in the area. A total of 75 species belong to fifty-five families. Out of fifty-five families fifty-one families belong to angiosperm and one family belongs to gymnosperm and three families belong to Pteridophytes. Out of 39 families of angiosperms 4 families belong to Monocot and 47 families belong to Dicot. Rosaceae family has the largest number of species 7, followed by Poaceae and Lamiaceae have 5, 5 species, Asteraceae and Rutaceae have 4 species and Polygonaceae, Rhamnaceae and Urticaceae have 3 species. Amaranthaceae, Brassicaceae, Ebenaceae, Euphorbiaceae, Fabaceae, Fagaceae, Moraceae and Solanaceae have 2 species, while the remaining families show the lowest number of species. Ethnobotanical study of plants clearly showed that all the 90 plant species reported from Tehsil Colony, Samarbagh had some kind of traditional or vernacular uses in the district. The largest ethnobotanical class was of 31 species which were used as Medicinal, followed by 25 Fodder and Forage species, 14 fuel wood species, plant species that were used for more than three purposes (miscellaneous), 11 species were used as a vegetable, while 9 species are ornamental plants. The results indicate that the area is climatically and ecologically dry temperate i.e., high species richness and low abundance and this is supported by the majority of species used as fodder and forage.

1. INTRODUCTION

District Dir Lower is situated in the north-western part of the Khyber Pakhtunkhwa province at 34°, 37° to 35°, 07'N Latitude and 71°, 31° to 72°, 14'E longitude. It is surrounded by Dir Upper from the north, Malakand in the southwest, Swat from the east and in the west by the tribal district Bajaur. It lies at 2700 feet

(823 m) from the sea level. River Panjkora are flow in the middle of the two-sister district, Dir Upper and Dir Lower. Snow -covered mountains peak is the source of feed for this River. The total area of the Dir lower is 1582 km² and the total population is 1,435,917 (2017 census report). The natural flora of the Valley is consisting of some coniferous forest. The vegetation of the valley is degrading by various anthropogenic

activities and intensive deforestation for agriculture practices. The commonly found plants in the area are Melia, Morus, Ficus, and Pyrus and Pinus. Samarbagh is a lush green valley that provides a good habitat for many birds like sparrows, pigeons and other animals (Anonymous, 1998). The ground floor has rich humus and moisture and the humidity is also supporting the rich distribution of ferns in the moist shady condition (Saleem et al., 2000). Further, due to the availability of favorable climatic conditions and suitable habitats for growth and development, the Pteridophytes are widely distributed in the valley. Forests are the most valuable and vagarious declining natural resource of Pakistan. Most of the forest management studies depict that forests owned by the farmers are comparatively well managed than the state forests. Liverworts and Hornworts collectively constitute a non-vascular group of plants called Bryophyte (Crandall and Stotler, 1980). The Plant body is gametophyte which is relatively small, ranging from 2 cm to 20 cm long. Bryophytes play an important, though inconspicuous role in the cycles of nature. Some of them provide food for herbivorous mammals, birds and other animals. 11 fungal species are isolated from rhizosphere and non-rhizosphere regions of Pteris vittata (Yasmin and Saxena, 1990). Comparing to bryophytes they are somehow resistant to drought and even some ferns are serious weeds and their control is a problem as Salvinia molesta (Jayanth, 1987). A study was conducted in a greenhouse to investigate the effect of defoliation and injury on dormant buds and apices of Schizoid fern (Punetha, 1987). Some of the members of this group are economically important e.g. Christella parasitica, Marsilea minuta, Pteris vittata and Salvinia molesta are used to fix green plant tissues (Devi et al. 1994), others are toxic and can cause diseases. The term "Ethnobotany" coined by an American Botanist J William Hershberger in 1896 (Cotton, 1996). Ethnobotany is a branch of biological science that show medicinal relationship exist between people and plants. German physician Leopold Glueck was the first person to work on the traditional uses of medicinal plants in Sarajevo (Bosnia). In the 19th century he reported the uses of plants. Their published work is considered to be the first ethnobotanical work (Chaudhary, et al 2008). In last century ethnobotany is developed to a more practical field from a documentation field of science, and play vital role in survival of plants resources and protection (Khan 2011). From evidence it is demonstrated that people living an area for long period of time have knowledge about local flora and ecology (Khan 2011).

Ethnobotany play a vital role and become essential part of our world, new ethnobotanical research prove that people used traditional drugs for treatment of various diseases since time immemorial and plants are very important element of tribal life (Amrit 2007, Bourdy 2008).

2. Material and Methods

2.1 Study Area

An extensive study was carried out on the flora of Smarbagh Colony from August 2021 to September 2022. The area was frequently visited for the collection of data belonging to the plant diversity of the flora. The data for the research project was obtained in two phases.

2.2 Fieldwork (Phase-1)

In this phase all the vascular plants of the hill were thoroughly collected. The plant specimens were identified with the help of available literature, herbarium specimens and Flora of Pakistan. The sampled plants were processed according to the international standard. The ethnobotanical information regarding all aspects of plant use of the flora of Sheen Ghar was obtained. This information's was collected through a questionnaire, observations, interviews and guided field walks.

2.3 Observations

The local community has a very rich knowledge of plant use, to know the practices of indigenous knowledge, repeated surveys including transect walks, discussions and informal talks with hakims and local people were made. Field observations include local methods of plant collection, harvesting time, drying, processing, storage and utilization. This information enabled me to develop a broader envision of the interactions of local people with plant resources. A formal questionnaire was developed keeping in view the experiences of observations for the development of more systematic data and field surveys. A pre-test for the application of the questionnaire was applied at the same time all the plants were collected during flowering or fruiting stage and refine the same for the large-scale application in the field. At the same time all the plants were collected during the flowering or fruiting stage and consequently were poisoned, pressed and preserved.

2.4 Interviews

A field diary was used to record the data during interviews with the plant collectors, local people and hakims. The interviews and group discussions were held with villagers that provided valuable information including all sorts of plant use. The structured and semi-structured questionnaires were adopted in interviews to get participatory, qualitative as well as Quantitative data about the plant resources and their utilization by the local people during the survey.

2.4 Survey of vascular plants

The research area was extensively visited during flowering and fruiting seasons of the year. Vascular plant diversity information that includes Pteridophytes, Gymnosperms, and Angiosperms was obtained throughout the year at appropriate seasons. The relevant data pertaining to the locality, habitat, habit, family, scientific, local names, part used, and other valuable information were recorded through a questionnaire. The plant specimens were pressed in newspaper and dried. The collected plant specimens were identified. High-resolution pictures were selected from the photographs of the plants taken in the research area. The specimens were deposited in the herbarium of Ghazi Umara Khan Degree College Samarbagh Dir Lower.

2.6 Ethnobotanical Survey

The plant specimens collected from the area were classified on the basis of their overall utility in the valley. The ethnobotanical information was collected through interviews of the inhabitants, herd men, hakims, and plant collectors on the basis of age and gender group of the area. The information includes plant usage is medicinal, fuel, timbers, fodder, fruits, plants, vegetables, condiments, spices, plants used as ornamental, fences, dyes, and poisonous.

2.7 Documentation and analysis of the obtained data (Phase-2)

Analysis and Documentation of Research Data:

The information collected during the survey of the area was analyzed and documented according to the set procedures. The data obtained regarding plant use from the area was checked and compared with the available literature and hence reconfirmed. This information's was arranged according to their

indigenous uses and is presented in tabulated form. The dependence of the local population on plant resources, their ethnomedicinal and cultural aspects as well as their conservation status was also documented. The inventory for various uses includes voucher numbers, scientific names, local names, family, habitat, habit, part used and flowering season.

3. RESULT

3.1 Floristic Inventory

The floristic inventory is the complete checklist of species of a defined geographical area and it gives an outlook of the vegetation type of the area. Plant resources are severely affected by anthropogenic activities, tillage practices, natural calamities and other biotic and abiotic influences. The present research is first-hand information on the flora of the area. A total of 57 species belong to 43 families. Out of 59 families the 39 families belong to angiosperm and one family belongs to gymnosperm and three families belong to Pteridophytes. Out of 59 families of angiosperms the 4 families belong to Monocot and 47 families belong to dicot. Rosaceae family have largest species in the study area which contain 7 species followed by Poaceae and Lamiaceae have 5 species. Asteraceae and Rutaceae have 4 species and Polygonaceae, Rhamnaceae and Urticaceae have 3 species. Amaranthaceae, Brassicaceae, Ebenaceae, Euphorbiaceae, Fabaceae, Fagaceae, Moraceae and Solanaceae have 2 species, while the remaining families show the lowest number of species.

PTERIDOPHYTES

Plants No: 1

Family name: Adiantaceae

Botanical name: *Adiantum capillus veneris* L.

Local name: Bibi Aisha sanra

Part used: Fronds

Local uses: Fronds juice used in cough and sore throat.

Plants No: 2

Family name: Dryopteridaceae

Botanical name: *Dryopteris serrato-dentata* (Bedd.)

Hay

Local name: Kwanjay

Part used: Rhizome

Local uses: Rhizome is anthelminthic.

Plants No: 3

Family name: Equisetaceae

Botanical name: Equisetum arvense L.

Local name: Bandakay

Part used: Shoots

Local uses: The extracts of shoots are mixed with mustard oil and used as a hair tonic and against lice. It is used for cleaning and washing utensils.

GYMNOSPERMS

Plants No: 4

Family: Pinaceae

Botanical name: *Cedrus deodara* (Roxb. ex D. Don) G. Don

Local name: Diyar

Parts used: Oil, Bark, gum and wood

Local uses: The wood is durable and resistant to white ants, fungal attacks, and water. It yields the strongest timber and is employed extensively in buildings, for making railway sleepers, carriages, and for making bridges.

Plants No: 5

Family name: Pinaceae

Botanical name: *Pinus roxburghii* Sargent

Local name: Nakhtar

Part used: The whole tree

Local uses: The resin locally known, as "Jaula" is a stimulant used for ulcers, snakebites, scorpion stings, and skin diseases. It is a blood purifier. Wood is an aromatic, antiseptic, deodorant, diaphoretic, and stimulant, and is used in the burning of the body, cough, fainting, and ulceration. Wood is used as timber in construction, making a good fuel.

ANGIOSPERMS (Monocots)

Plants No: 6

Family name: Acoraceae

Botanical name: *Acorus calamus* L.

Local name: Khawaja

Part used: Rhizome

Local uses: Rhizomes are emetic and a good remedy for flatulence, colic and diarrhea. It is also used against snake bites.

Plants No: 7

Family name: Araceae

Botanical name: *Colocasia esculenta* (L.) Schott

Local name: Kachalo

Part used: Corn

Local uses: Corn is used as vegetable.

Plants No: 8

Family name: Cyperaceae

Botanical name: *Cyperus rotundus* L.

Local name: Shamookha

Part used: Tuber and rhizome

Local uses: Used for the treatment of diarrhea, diabetes, malaria.

Plants No: 9

Family name: Poaceae

Botanical name: *Avena sativa* L.

Local name: Jawdar

Part used: Seeds

Local uses: use as energy booster. Correct sleeping disorder.

Plants No: 10

Family name: Poaceae (Gramineae)

Botanical name: *Cynodon dactylon* (Linn.) Pres.

Local name: Kabal/drab

Part used: Whole plant

Local uses: It is used along with rose flower in jaundice. It is also used for piles and dysentery.

Plants No: 11

Family name: Poaceae (Gramineae)

Botanical name: *Saccharum bengalensis* Retz.

Local name: Nal

Part used: Whole plant

Local uses: It is used as hedge, soil binder and for various utensils.

Plants No: 12

Family name: Poaceae (Gramineae)

Botanical name: *Sorghum helepense* (L.) Pers.

Local name: Dadam

Part used: Whole plant

Local uses: It is used as fodder and hey fodder.

Plants No: 13

Family name: Poaceae

Botanical name: *Zea mays* L.

Local name: Jawar

Part used: Seeds

Local uses: used for diabetes, high blood pressure, fatigue and high cholesterol level. Seeds as used as a major source of food.

ANGIOSPERMS (Dicots)

Plants No: 14

Family name: Anacardiaceae

Botanical name: *Pistacia chinensis* Bunge spp. *integerrima* (J.L.S) Rech. f.

Local Name: Kikar

Part used: Insect-infected galls

Local Uses: Fruits and gall extract is given in jaundice. Leaves are used as fodder for cattle. Wood yields timber, and is used for making furniture. Branches serve the purpose of fuel wood.

Plants No: 15

Family name: Amaranthaceae

Botanical name: *Amaranthus viridis* L.

Local name: Chalwayi

Part used: The whole plant

Local uses: Cooked as pot-herb, used as an emollient.

Plants No: 16

Family name: Amaranthaceae

Botanical name: *Chenopodium ambrosioides* L.

Local name: Sakha boty

Part used: shoot

Local uses: The young shoots are used as laxative and against malaria.

Plants No: 17

Family name: Apiaceae

Botanical name: *Foenicullum vulgare* Mill.

Local name: Kagainali

Part used: Fruit, leaves, seeds

Local uses: Seed oil is used as vermicide and stomachache. Seed is the source of volatile oil. Leaves are used as diuretic and digestive. Fruit juice is used to improve eyesight.

Plants No: 18

Family name: Araliaceae

Botanical name: *Hedera nepalensis* K. Koch.

Local Name: Perwati

Part used: Whole plant

Local uses: Leaves and berries are stimulant, cathartic, and diaphoretic. Dry leaves are used to stimulate sores. Berries are purgative and are used in febrile disorders. Aphrodisiac, Nerve tonic, General tonic, and Depurative.

Plants No: 19

Family name: Asclepiadaceae

Botanical name: *Calotropis procera* (Ait.) Ait.f.

Local name: Spulmai

Part used: Latex of leaves, leaves and roots

Local uses: latex is used as purgative. In small amount its seeds along with red chili and opium are also used for cholera. Milky latex of stem is used in eczema and ring worm.

Plants No: 20

Family name: Asteraceae

Botanical name: *Artimisia absinthium* L.

Part used: leaves

Local uses: used for dyspepsia, and nephrothy

Plants No: 21

Family name: Asteraceae (Compositae)

Botanical name: *Artemisia vulgaris* L.

Local name: Tarkha

Part used: Leaves

Local uses: Leaves are anthelmintic and useful for curing skin diseases.

Plants No: 22

Family name: Asteraceae

Botanical name: *Helianthus annuus* L.

Local name: Nwar parast

Part used: Whole plant

Local uses: Oil is used for cooking. Plant is ornamental.

Plants No: 23

Family name: Asteraceae

Botanical name: *Verbena encelioides* (Cav.) Benth. & Hook.f. ex A. Gray

Local name:

Part used: Whole plant

Local use: Used in the treatment of gum sores, hemorrhoids, cancer, and skin problems. Also used as an ornamental plant.

Plants No: 24

Family name: Begoniaceae

Botanical name: *Pyrostegia venusta* (Ker Gawl.) Miers

Local name: Khaista boty

Part used: The whole plant

Local uses: Used as infusion or decoction, also used as a general tonic. Also used as a treatment for diarrhea, cough etc. Also used as an ornamental plant.

Plants No: 25

Family name: Berberidaceae

Botanical name: *Berberis lycium* Royle

Local name: Kowary

Part used: Root, Fruits and Stem

Local uses: The roots are grinded into powder and the powders is placed on wounds for early recovery.

Plants No: 26

Family name: Brassicaceae

Botanical name: *Lepidium pinnatifidum* Ledeb.

Part used: leaves, seed

Local uses: Seeds are used for painful menstruation in Women. Leaves are cooked as vegetables. Whole plant is effect in constipation and pile.

Plants No: 27

Family name: Brassicaceae

Botanical name: Nasturtium officinale R.Br.

Local name: Talmeera,

Part used: Vegetative portion

Local uses: A vegetable, salad and pot-herb. It is antiscorbic, appetizer, diuretic and used in chest infections and stomachache.

Plants No: 28

Family name: Buxaceae

Botanical name: *Sarcococca saligna* (D. Don) Muell. Arg.

Local name: Shenaoly

Part used: Leaves,

Local uses: Used as a laxative and a blood purifier and for relieving muscular pain. Used as a useful soil binder. Leaves are laxative and blood purifier and good remedy for muscular pains.

Plants No: 29

Family name: Cactaceae

Botanical name: *Opuntia dillenii* Haw.

Local name: Zaqqum

Part Used: Phylloclade's, fruits

Local uses: The poultice made from the phylloclade is used for extracting guinea worms. The fruits are edible, demulcent and expectorant. The ripe fruit juice is a remedy for asthma and whooping cough. The plant is grown as hedge plant in some places.

Plants No: 30

Family name: Cannabaceae

Botanical name: *Cannabis sativa* L.

Local name: Bung

Part used: Leaves, Bark and seeds

Local uses: Warmed leaves are tied over the affected parts of the body for the treatment of spasm. Juice added with milk and nuts to make "Tandai" a cold drink which produces a pleasant excitement. It is sedative, tonic, narcotic, anodyne, refrigerant, and antispasmodic.

Plants No: 31

Family name: Capparaceae

Botanical name: *Capparis spinosa* L.

Local name: Wakha

Part used: Roots & Leaves

Local uses: Used as folk medicine to treat diabetes, hepatitis, and arthritis.

Plants No: 32

Family name: Cucurbitaceae

Botanical name: *Cucurbita pepo* L.

Local name: Kadoo

Part used: Leaves & Fruit

Local uses; used as an anti-inflammatory, analgesic, anti-diabetic. Used as a source of food.

Plants No: 33

Family name: Ebenaceae

Botanical name: *Diospyrus kaki* L.

Local name: Farsi man/Ziar Amlok

Part used: Fruits, wood

Local uses: It is a very common commercial fruit tree. It is used in dry and fresh form and is very delicious. It is a laxative. Fruit stimulates gastric activities, treat diarrhea, piles, and has laxative properties.

Plants No: 34

Family name: Ebenaceae

Botanical name: *Diospyrus lotus* L.

Local name: Tor Amlok

Part used: Fruit, wood, leaves

Local uses: The fruits are edible, carminative, purgative and beneficial in blood diseases, gonorrhoea, and leprosy. Infusion of the fruit is used as gargle in aphthae or stomatitis and sore throat.

Plants No: 35

Family name: Euphorbiaceae

Botanical name: *Euphorbia helioscopia* L.

Local name: Mandarro

Part used: Shoots, Seeds and latex

Local Uses: Cathartic and anthelmintic.

The juice is applied to eruptions. Latex is poisonous and causes swelling on skin. It also causes irritation. It is used as a fish poison. The seeds grinded squeezed and extract its oil and used as purgative.

Plants No: 36

Family name: Euphorbiaceae

Botanical name: *Ricinus communis* L.

Local name: Kharkhanda

Part used: Leaves, seeds, oil

Local uses: The leaves are emetic, narcotic, poisonous and purgative. A poultice made from the leaves is applied to swellings. Castor oil is purgative; oil is given for constipation and to mothers before and after childbirth.

Plants No: 37
Family name: Fabaceae
Botanical name: *Amphicarpea bracteata* (L.) Fernald
Local name: Moot
Part used: Roots
Local uses: used for the treatment of diarrhea.

Plants No: 38
Family name: Fabaceae
Botanical name: *Robinia pseudo acacia* L.
Local Names: Toor Kikar
Part used: The whole plant
Local uses: The wood is heavy, hard, strong, and durable. It is used for general construction and as a fuel. The plant is poisonous, acting as a purgative and emetic. The flowers are a good source of honey.

Plants No: 39
Family name: Fagaceae
Botanical name: *Quercus baloot* Griffth.
Local Name: Ghuara Serai
Part used: Wood, nuts (acorns)
Local uses: The seeds are edible, astringent and diuretic, Also Used in asthma, diarrhea, indigestion and gonorrhoea. Prevent excessive dejection in case of heaviness in the stomach.

Plants No: 40
Family name: Fagaceae
Botanical name: *Quercus brantii* Lindl.
Local name: Khar boty
Part used: The whole plant
Local uses: Used as fuel wood, charcoal, and timber hardwood.

Plants No: 41
Family name: Fumariaceae
Botanical name: *Fumaria indica* (Hauuskn.) Pugsley
Local name: Papra/shatara
Part used: Shoot
Local uses: The plant is used as a pot herb. Medicinally used as a blood purifier; diaphoretic and antipyretic.

Plants No: 42
Family name: Juglandaceae
Botanical name: *Juglans regia* L.
Local name: Ghooz
Part used: Nuts, bark, leaves, and wood.
Local uses: The bark is used for cleaning teeth and sore throat. The leaves are also used as lipsticks. It is also used as a dye. A decoction obtained from the leaves or fruit is used as antispasmodic.

Plants No: 43
Family name: Lamiaceae
Botanical name: *Ajugba bracteosa* Wall. ex Benth.
Local name: Gooti
Part used: Whole plant
Local uses: The plant is used in internal colic, angina, and for the treatment of aches.

Plants No: 44
Family name: Lamiaceae
Botanical name: *Mentha arvensis*
Local name: Pudina
Part used: The whole plant
Local uses: The green and dried leaves are used as antispasmodic, refrigerant, stimulant, diuretic, and aromatic. The decoction of the leaves and lemon grass is prepared and used as a febrifuge in fever. It is a honey-bee species.

Plants No: 45
Family name: Lamiaceae
Botanical name: *Mentha longifolia* (L.) L.
Local name: Villanay
Part used: The whole plant
Local uses: A powder made from the dried leaves is used in chutney, as a stimulant, an anti-rheumatic, aromatic, flavoring agent, stomachache, and carminative.

Plants No: 46
Family name: Lamiaceae
Botanical name: *Osmium bacilicum* L.
Local name: Kashmalae
Part used: Vegetative portions
Local uses: It is used for toothache, earache and diuretic. Plant is also used as ornamental and for incense /perfume.

Plants No: 47
Family name: Lamiaceae
Botanical name: *Thymus linearis* Benth.
Local name: Spairkay
Part used: Fruits
Local uses: The fruits are used for colds, coughs and bronchial troubles. It can also use for the treatment of fever, pain, and inflammation.

Plants No: 48
Family name: Malvaceae
Botanical name: *Hibiscus esculentus* (L.) Moench
Local name: Bandai
Part used: whole plant

Local uses: used for wounds and boils. Leaves are diuretic, emollient. Fruit is edible.

Plants No: 49

Family name: Meliaceae

Botanical name: *Melia azedarach* L.

Local name: Tora shandai.

Part used: Bark, leaves

Local Uses: The decoction of the leaves is employed in hysteria and for skin diseases. The leaves and flowers are effective for relieving nervous headache.

Plants No: 50

Family name: Mimosaceae

Botanical name: *Acacia modesta* Wall.

Local name: Palousa

Part used: Gum, sticks

Local uses: The gum obtained from the bark is used as a tonic and stimulant. Usually, the natives mix the gum with wheat flour, sugar is added and roasted in desi ghee, especially given to women, who give birth to new babies. Ash is used in snuff preparation.

Plants No: 51

Family name: Moraceae

Botanical name: *Ficus carica* L.

Local name: Inzar

Part used: Fruits, latex

Local uses: Fruits, both in dry or fresh form, are edible. It is laxative and demulcent, used in constipation, piles and urinary bladder problems. The latex is used against warts and to remove spines and thorns easy.

Plants No: 52

Family name: Moraceae

Botanical name: *Morus alba* L.

Local name: Spin Toot

Part used: Fruits, leaves, branches, trunk

Local uses: The fruits are eaten both fresh and dry. They are a laxative and purgative. The leaves are emollient and used for cleaning the throat and as cooling agent. Main source of fuel wood.

Plants No: 53

Family name: Myrtaceae

Botanical name: *Eucalyptus camaldulensis* Dehnh.

Local name: Laachi

Part used: leaves, seed

Local uses: Used as cough remedy and expectorant. Also used as tonic, astringent, antiseptic.

Plants No: 54

Family name: Oleaceae

Botanical name: *Olea ferruginea* Royle

Local name: Khona

Part used: Fruits, leaves and trunk

Local uses: The fruit is antidiabetic. The leaves are used for toothache and throats soar. The leaves and bark are bitter and used as a astringent, antiseptic, antiperiodic, diuretic and tonic.

Plants No: 55

Family name: Oxalidaceae

Botanical name: *Oxalis corniculata* L.

Local name: Grady tarookay

Part used: Leaves

Local uses: Used for stomach problems, fever, and dysentery. It is refrigerant, vermifuge and flavoring agent.

Plants No: 56

Family name: Papilionaceae

Botanical name: *Indigofera heterantha* Wall. ex Brand.

Local name: Ghoraja

Part used: Whole plant

Local uses: The leaves, shoots and flowers used as demulcent, refrigerant and anti-cancerous. The roots used as diuretic, carminative and the root-bark in urinary diseases.

Plants No: 57

Family name: Plantaginaceae

Botanical name: *Plantago lanceolata* L.

Local name: Ghawajabai

Part used: Leaves, fruits, seeds

Local uses: Extract of leaves is applied to sores, wounds and inflamed surfaces. The seeds are laxative and are used for dysentery and mouth diseases. The leaves slightly rubbed and used as antifungal in athlete's foot disease.

Plants No: 58

Family name: Plantanaceae

Botanical name: *Platanus orientalis* L.

Local Name: Chinar

Part used: Bark

Local uses: The bark is given for toothache and diarrhea. Bark is used in rheumatism. Bark boiled with vinegar is used in dysentery and diarrhea. Powdered leaves are used in ophthalmic.

Plants No: 59

Family name: Polygonaceae

Botanical name: *Persicaria hydropiper* (L.) Delabre

Local name: Palpolak

Part used: Whole plant

Local uses: used as astringent, analgesic and hemostatic. Also used for the treatment of kidney stones, edema and asthma.

Plants No: 60

Family name: Polygonaceae

Botanical name: *Rumex dentatus* L.

Local name: Shalkhy

Part used: Leaves, roots

Local uses: Plant is used as pot-herb. It is diuretic, astringent and demulcent. It soothes the irritation caused by *Urtica dioica*, which often grows in association with it. Roots are astringent.

Plants No: 61

Family name: Polygonaceae

Botanical name: *Rumex hastatus* D. Don

Local name: Tarookay

Part used: Leaves, young shoots

Local uses: Fresh leaves are crushed and used to stop bleeding from wounds. It is used in chutneys and as a flavoring agent. The plant is used as antiemetic, carminative, purgative, astringent and diuretic.

Plants No: 62

Family name: Portulacaceae

Botanical name: *Portulaca oleracea* L.

Local name: Warkhari

Part used: the whole plant

Local uses: Used as febrifuge, antiseptic, vermifuge. Also used as an antibacterial, antioxidant. Used as a source of food.

Plants No: 63

Family name: Myrsinaceae

Botanical name: *Myrsine africana* L.

Local name: Maru rang

Part used: Leaves, fruits

Local uses: The fruits are edible and anthelmintic. Leaves are used for fragrance in tea, as spices, carminative, appetizer, flavoring agent, and digestive.

Plants No: 64

Family name: Punicaceae

Botanical name: *Punica granatum* L.

Local name: Ananghorai

Part used: Fruits, bark, leaves

Local uses: Fresh leaves are crushed and the extract is used in dysentery, skin diseases, checking of bleeding from nose, and useful as eyewash. The fruit pericarp is used for whooping cough.

Plants No: 65

Family name: Ranunculaceae

Botanical name: *Ranunculus laetus* wall. Ex Hook.f & J. W. Thomson

Local name: Ziar goly

Part used: Leaves

Local uses: plant juice are antifungal and antimalarial, used in intermittent fevers, gout, and as thma. Paste made from leaves used for gas trouble and joints pain.

Plants No: 66

Family name: Rhamnaceae

Botanical name: *Sageretia thea* (Osbeck) M.C. Jhonston

Local name: Mamanra

Part used: Leaves, bark, fruits, roots

Local uses: Decoction of leaves is used as stimulant and blood purifier. Root decoction is very effective in jaundice. Leaves are used as fodder for cattle.

Plants No: 67

Family name: Rhamnaceae

Botanical name: *Zizyphus oxyphylla* Edgew.

Local name: Elanai

Part used: Roots, fruits

Local uses: The roots are used for curing jaundice. The fruits are edible and used for gas troubles. Also grown as hedge plant.

Plants No: 68

Family name: Rhamnaceae

Botanical name: *Zizyphus sativa* Gaertn.

Local name: Markhani

Part used: Fruit

Local uses: use in treatment of Jaundice, diarrhea, Ulcer and fever.

Plants No: 69

Family name: Rosaceae

Botanical name: *Cydonia oblonga* Mill.

Local Names: Boye

Part used: Fruits, Leaves, bark

Local uses: Leaves, buds and bark are considered as astringent. Seed is demulcent, used in dysentery, diarrhea, sore throat and fever.

Plants No: 70

Family name: Rosaceae

Botanical name: *Eriobotrya japonica* (Thunb.) Lindley.

Local names: Lokat

Part used: Fruits

Local uses: The fruit is edible; the tree is cultivated as an ornamental tree and for its fruit.

Plants No: 71
Family name: Rosaceae
Botanical name: *Malus pumila* Mill.
Local name: Manra
Part used: Fruits, flowers, wood
Local uses: Valuable commercial fruit, purgative, source of iron, expectorant, used in jams, jellies, marmalades and good for the heart.

Plants No: 72
Family name: Rosaceae
Botanical name: *Prunus armeniaca* L.
Local name: Khubani/asharay
Part used: Fruits, wood, leaves, seeds
Local uses: The fruits and seeds are eaten both fresh and dry. Dried fruit is refrigerant and laxative. It is used for fever.

Plants No: 73
Family name: Rosaceae
Botanical name: *Prunus domestica* L.
Local name: Alocha
Part used: Fruit
Local uses: The fruit is febrifuge, laxative and soma chic. Dried fruit can easily relieve constipation.

Plants No: 75
Family name: Rosaceae
Botanical name: *Rosa brunonii* Lindl.
Local name: Kuruch
Part used: Flowers, branches
Local uses: It is aphrodisiac and beneficial in bilious affections and burning of the skin. The root is beneficial in eye diseases. Used in skin and eye diseases.

Table no 1: Floristic list of the ethnomedicinal collected plant of the study area.

SL. No	Botanical Name	Local name	Study area	Species%	Family Name
1.	<i>Adiantum capillus-veneris</i> L.	Bibi Aisha sanra	Asharodheri	1.81	Adiantaceae
2.	<i>Dryopteris serrato-dentata</i> (Brdd.) Hay.	Kwanjay	Asharodheri	1.81	Dryopteridaceae
3.	<i>Equisetum arvense</i> L.	Bandakay	Garband	1.81	Equisetaceae
4.	<i>Cedrus deodara</i> (Roxb.exD.Don)	Diyar	Shenghar	3.63	Pinaceae
5.	<i>Pinus roxburghii</i> Sargent	Nakhtar	Shenghar	3.63	Pinaceae
6.	<i>Acorus calamus</i> L.	Khawaja	Asharodheri	1.81	Acoraceae
7.	<i>Colocacia esculenta</i> (L.) Schott	Kachalo	Asharodheri	1.81	Acoraceae
8.	<i>Cyperus rotundus</i> L.	Della	Lajbouk	1.81	Cyperaceae
9.	<i>Avena sativa</i> L.	Jaodar	Garband	9.09	Poaceae
10.	<i>Cynodon dactylon</i> (L.) Pers.	Kabal	Lajbouk	9.09	Poaceae
11.	<i>Saccharum bengalense</i> Retz	Nal	Lajbouk	9.09	Poaceae
12.	<i>Sorghum halepense</i> (L.) Pers.	Dadam	Garband	9.09	Poaceae
13.	<i>Zea mays</i> L.	Jawar	Shenghar	9.09	Poaceae
14.	<i>Pistacia chinensis</i> Bunge ssp.	Kikar	Asharodheri	1.81	Anacardiaceae
15.	<i>Amaranthus viridis</i> L.	Chalwayi	Asharodheri	3.63	Amaranthaceae
16.	<i>Foenicullum vulgare</i> Mill	Kagainali	Ghwargai	1.81	Apiaceae
17.	<i>Fumaria indica</i>	Sha tara	Asharodheri	1.81	Fumariaceae
18.	<i>Hedera nepalensis</i> K. Koch.	Perwati	Asharodheri	1.81	Araliaceae
19.	<i>Calotropis procera</i> (Ait.) Ait.f	Spulmai	Morani	1.81	Asclepiadaceae
20.	<i>Artemisia absinthium</i> L.		Asharodheri	7.27	Asteraceae
21.	<i>Artemisia vulgaris</i> L.	Tarkha	Garband	7.27	Asteraceae
22.	<i>Helianthus annuus</i> L.	Nwar parast	Asharodheri	7.27	Asteraceae
23.	<i>Pyrostegia venusta</i> (Ker Gawl.)	Khaista boty	Dermal	1.81	Begoniaceae
24.	<i>Berberis lycium</i> Royle	Kowary	Ondesa	1.81	Berberidaceae
25.	<i>Lepidium pinnatifidum</i> Ledeb.	Alam	Asharodheri	3.63	Brassicaceae

26.	<i>Nasturtium officinale</i> R. Br.	Tarmira	Lajbouk	3.63	Brassicaceae
27.	<i>Sarcococca saligna</i> (D. Don)	Shenaoly	Asharodheri	1.81	Buxaceae
28.	<i>Opuntia dillenii</i> Haw.	Zoqam	Ghwargay	1.81	Cactaceae
29.	<i>Cannabis sativa</i> L.	Bung	Darmal	1.81	Cannabaceae
30.	<i>Capparis spinosa</i> L.	Wakha	Lajbouk k	1.81	Cyperaceae
31.	<i>Curcubita pepo</i> L.	Kado	Lajbouk	3.63	Cucurbitaceae
32.	<i>Diospyrus Kaki</i> .	Ziar Amlok	Asharodheri	3.63	Ebenaceae
33.	<i>Ricinus communis</i> L.	Kharkhanda	Biyari	3.63	Euphorbiaceae
34.	<i>Euphorbia helioscopia</i> L.	Mandaroo	Asharodheri	3.63	Euphorbiaceae
35.	<i>Amphicarpaea bracteata</i> (L)	Moot	Lajbouk k	3.63	Fabaceae
36.	<i>Robinia pseudo acacia</i> L.	Tor kikar	Asharodheri	3.63	Fabaceae
37.	<i>Quercus baloot</i> Griffth.	Ghuara Sera	Shen ghar	3.63	Fagaceae
38.	<i>Quercus barntii</i> Lindl	Khar boty	Darmal	3.63	Fagaceae
39.	<i>Juglans regia</i> L	Ghuz	Garband	3.63	Juglandaceae
40.	<i>Ajuga bracteosa</i> Wall. ex Benth.	Guti	Garband	9.09	Lamiaceae
41.	<i>Mentha arvensis</i> L.	Pondina	Lajbouk	9.09	Lamiaceae
42.	<i>Mentha longifolia</i> (L.)	Villanay	Lajbouk	9.09	Lamiaceae
43.	<i>Osmium bacilicum</i> L.	<i>Kashmalae</i>	Asharodheri	9.09	Lamiaceae
44.	<i>Ajuga bracteosa</i> Wall. ex Benth.	Guti	Garband	9.09	Lamiaceae
45.	<i>Mentha arvensis</i> L.	Pondina	Lajbouk	9.09	Lamiaceae
46.	<i>Hibiscus esculentus</i> (L.)Moench	Bandi	Lajbouk	1.81	Malvaceae
47.	<i>Melia azedarach</i> L.	Torashandai.	Asharodheri	1.81	Meliaceae
48.	<i>Acacia modesta</i> Wall.	Palosa	Morani	1.81	Mimosaceous
49.	<i>Ficus carica</i> L.	Inzar	Shen ghar	3.63	Moraceae
50.	<i>Morus alba</i> L.	Spin toot	Garband	3.63	Moraceae
51.	<i>Persicaria hydropiper</i> (L.)	palpolak	Lajbouk	5.45	Polygonaceae
52.	<i>Rumex hastatus</i> D. Don	Tarookay	Asharodheri	5.45	Polygonaceae
53.	<i>Sageretia thea</i> (Osbeck) M.C.	Mamanra	Garband	5.45	Rhamnaceae
54.	<i>Zizyphus oxyphylla</i> Edgew.	Eanley	Morani	5.45	Rhamnaceae
55.	<i>Zizyphus sativa</i> Gaertn.	Markhani	Shen ghar	5.45	Rhamnaceae

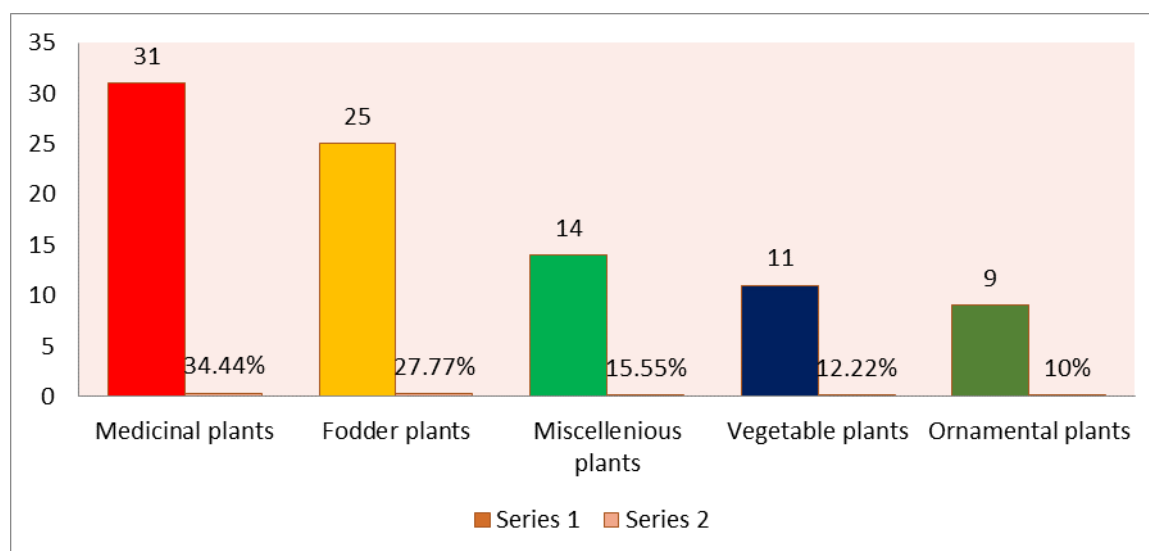


Fig. 1. Above graph showing the percentage value of the medicinal plant of the study area

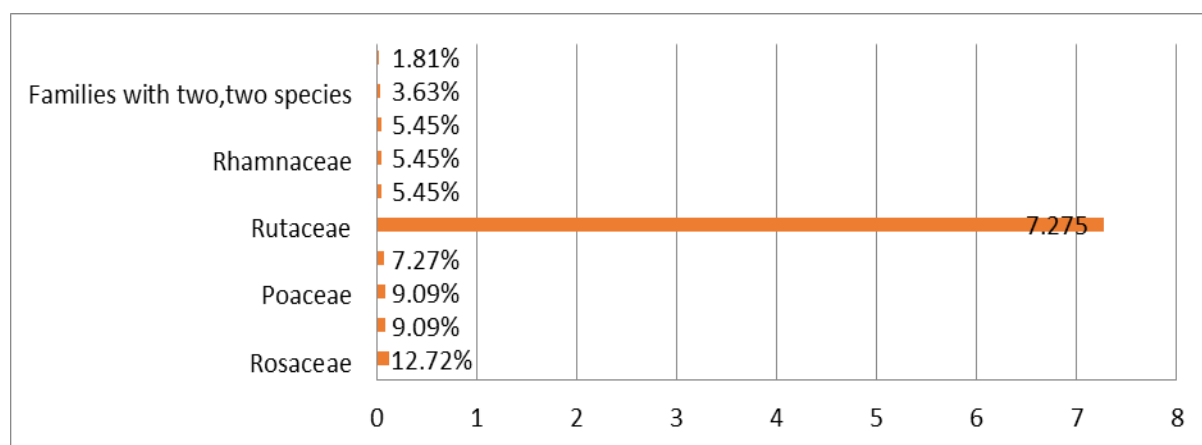


Fig. 2. Show the family composition of the study flied

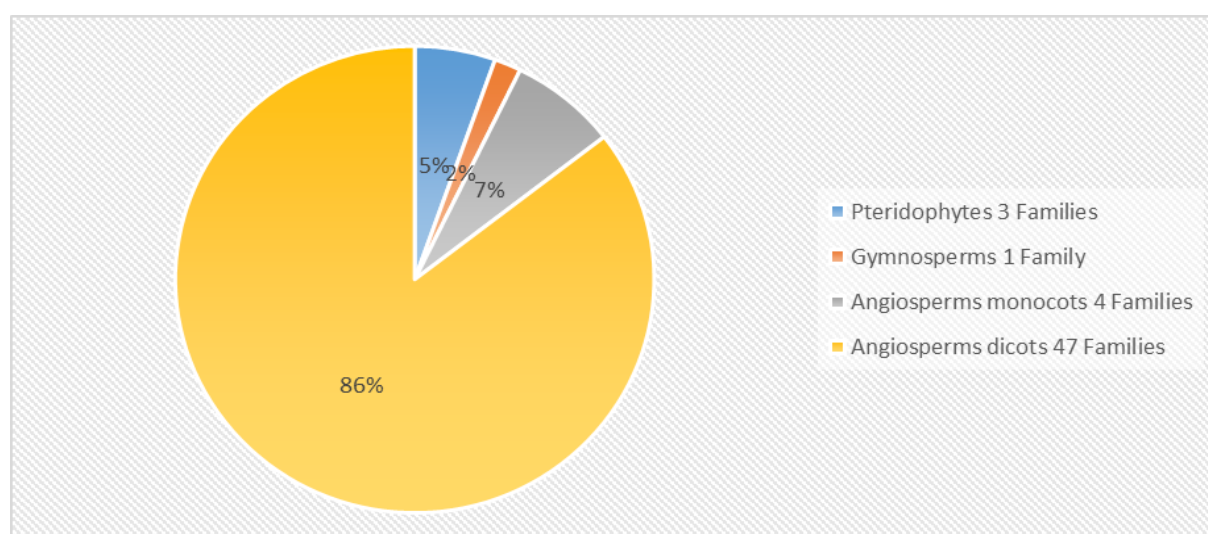


Fig. 3. Show the distribution of plant Families

3. Discussion

Pakistan has natural resources that have been gifted by nature with use and advantage of living organisms. The flora of Pakistan is very rich and diverse because of its various climatic and soil conditions and multiple ecological regions. About 6,000 species of wild plants reported from Pakistan out of which about 400 to 600 species are used for medicinal purposes, 23 species of gymnosperms and 128 species of Pteridophytes, about 4492 dicots species of flowering plants and round about 1508 monocots species are considered to be medicinally important (Jan et al., 2012). It is clear that dominant plants species are decrease day by day due to overpopulation, lack of awareness about the use of the plants by the local inhabitants. The people of the area used plants as limber and timber and cattle fodder. The majority of plants used for these purposes are *Mentha arvensis*, *Platanus orientalis*, *Dodonaea viscosa*, *Cedrus deodara*, *Pinus ruxburgii*, *Berberis*

lyceum, *Olea ferruginea*, *Ricinus communis* etc. These plants have been studied and recorded for their medicinal uses like fever, asthma, dysentery etc. The results showed a similar relationship with our study due to the reason such as *Mentha arvensis* used for dysentery which is a similar to our finding. The people of the study area widely used medicinal plants for various human ailments. The current study showed that consistent indigenous knowledge on ethnomedicinal plants used in the treatment of basic human healthcare systems existed here. Most of the people live in the rural communities in the remote areas and away from the modern healthcare facilities. In the study area, the local residents are heavily dependent on medicinal plants for health issues and so the demand of ethnomedicinal plants increases day by day (Hassan, 2017). The importance of biodiversity conservation is therefore fundamental and strategies of sustainable use should be considered for long-term

availability of medicinal plants here and even in the whole country. The possible solutions for the conservation of biodiversity and ethnomedicinal flora of the study area, to strengthen national, regional, and local networking activities regarding conservation and sustainable utilization. There must be cooperation among the government, non-government organizations, and local community to help conservation of medicinal plants in the area. Furthermore, the fast populations of the study area are often unaware about the importance of biodiversity conservation; they also show poor selection of fuel wood species. There is need to re-introduce the indigenous knowledge about the conservation and management of medicinal plants resources. Even though there is no available database to deposit the documented traditional knowledge in the study area, elderly people were always pleased when we asked them about medicinal plants and their therapeutic uses. Unfortunately, the present generations lack of interest in the field of medicinal plants. We suggest that the traditional knowledge from the elder people should be documented along with quality photography. In school, college and universities various awareness sessions (in the form conference and seminars) should be arranged for the current generation. The area heavy destruction of plants species should be conserved carefully. Future investigations should be carried out in order to ensure safe therapy concerning medicinal plants.

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