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Ethnobotanical Study of Commonly Used Weeds of District Bannu, Khyber Pakhtunkhwa (Pakistan)

Jehanzeb khan ¹, Rooman Khan ², Rizwana Aleem Qureshi ³

1. Department of Botany Government College Kakki Bannu, Pakistan [Email: jehan8bio@yahoo.com]
2. Bannu Medical College, Bannu, Pakistan
3. Department of Plant Sciences Quaid-e-Azam University, Islamabad, Pakistan

In the present ethnobotanical study 27 commonly used weed species were collected from District Bannu belonging to 19 different families, were pressed in the field, treated with mercuric chloride, identified and deposited in the herbarium of Government College Kakki Bannu. Through questioner method more than 80 interviews were made on random basis from local inhabitants, herbalists and Pansaries. The ethnobotanical data collected about these commonly used weed species were recorded, preserved and documented which revealed that they are quite effective remedies for different diseases such as headache, diabetes, toothache, jaundice, intestinal diseases, asthma, dysentery, diarrhea, fever, urinary tract, bleeding piles, skin disorders and cough.

Keyword : Ethnobotany, Weeds, Remedies, Bannu

1. Introduction:

Generally a plant growing where it is not wanted is considered as weed. The notion of weeds as unnecessary plants was originated when man started to intentionally grow plants for food. Weeds are unnecessary plants because they are dropping crop yield by competing with crop plants for common resources such as water, mineral nutrients, space and light. In Pakistan due to these weeds the annual losses recorded for wheat crops were 17-25% (Shad, 1987), maize and rice 6.3 and 4.9 billion (Hassan and Marwat, 2001). To meet with this problem to some extent, it is suggested to explore the medicinal utility of these weeds instead of eradicating them.

Ibrar *et al.*, (2003) studied 36 weeds from district Abbotabad out of which 35 weeds

were used by the local people for the treatment of various diseases like cough, fever, diarrhea, pain, worms and skin diseases. Ahmad *et al.*, (2006) reported the Ethnomedicinal information about Attock district of Punjab. The Ethnomedicinal uses of 15 species were recorded, which are used to heal various ailments. Collection of medicinally important weeds has endangered certain species. There is a need of careful conservation of the plants resources of the region, otherwise many weedy species may be lost forever and become extinct. Shah *et al.*, (2006) conducted ethnobotanical studies in District Musakhel and Barkhan in Balochistan. They collected plants of 18 different families, out of which 8 plants from 13 different families were used by the local people medicinally as tonic, laxative,

refrigerant and toothache. Enormous studies have been carried out on various aspects of ethnobotany by several workers such as Zolta (1980), Morgan (1981), Anderson (1986), Gilani *et al* (2001), Hassan and Marwat (2001), Ahmad *et al* (2003), Shinwari *et al*, (2003) and Haq F (2012) throughout the world. It is obvious that weeds are unwanted plants as they reduce crops yield by competing with them for the resources. Although weeds have negative impact on crops through competition and allelopathy, most of the weeds also have positive uses, ranges from food, fodder, medicinal, fuel and pest control. The Bannu District lies between 32.43⁰ to 33.06⁰ North latitude and from 70.22⁰ to 70.07⁰ East longitudes with a total area of 1227 square kilometers. It is bordering in the North and West by the Federally Administered Tribal Area (FATA) and in the East by district Karak, while in the South by district Lakki Marwat. The district consists of alluvial plain which is irrigated by Kurram and Tochi rivers. Annual rain fall is 111.36 mm in August. Every kind of crop, vegetable and fruit can be grown here. The aim of the present study was to explore the commonly used weeds of Bannu District ethnobotanically, so it was considered necessary to record, preserve and document the ethnomedicinal uses of these weeds before the information is lost forever.

2. Materials and Methods

During the field trips commonly used weeds species were collected, pressed in the field, treated with mercuric chloride, identified and mounted on the herbarium sheets of Government College Kakki Bannu. For ethnobotanical data collection interviews were taken from local inhabitants, herbalists and Pansaries about various weeds and their attributes. For interviews questionnaire method was adopted which included the information about the informant, the weeds

parts used by them and for what purpose the weed were used by them. More than 80 interviews were made on random basis from local inhabitants, herbalists and Pansaries.

3. Results

These commonly used weed species are arranged in alphabetical order followed by their family name, local name, flowering period, parts used and its uses.

- **Botanical Name:** *Achyranthes aspera* L.
 - **Family Name:** *Amaranthaceae*
 - **Local Name:** Ghoshkai
 - **Flowering Period:** September-April
 - **Part Used:** whole plant
 - **Uses:** the leaves of the plant are poisonous and used against scorpion bite. Its decoction is used in cough, asthma, upset stomach and dermatic disorder. The juice of the plant is used in abdominal pain, dysentery and in bowel complaints.

- **Botanical Name:** *Alhaghi maurorum* Medick
 - **Family Name:** *Papilionaceae*
 - **Local Name:** Tundoo
 - **Flowering Period:** May-June
 - **Part Used:** leaves and young shoot
 - **Uses:** Juice of the leaves is aphrodisiac and blood purifier. Paste of the leaves and shoot is used in skin disorders.

- **Botanical Name:** *Amaranthus viridis* L.
 - **Family Name:** *Amaranthaceae*
 - **Local Name:** Surma
 - **Flowering Period:** October-July
 - **Part Used:** leaves
 - **Uses:** Due to its poisonous properties it is used against scorpion and snake bite. Juice of the leaves is anthelmintic.

- **Botanical Name:** *Calendula arvensis* L.
 - **Family Name:** *Asteraceae*
 - **Local Name:** Zair gulai
 - **Flowering Period:** March-April
 - **Part Used:** leaves and flowers
 - **Uses:** The poultice of leaves is used for the healing of wounds. The flowers are antispasmodic and stimulant.

- **Botanical Name:** *Calotropis procera* (Wild.)R.Br.
 - **Family Name:** *Asclepiadaceae*
 - **Local Name:** Spalmaka
 - **Flowering Period:** June-October
 - **Part Used:** latex, shoot and leaves
 - **Uses:** Its leaves are used as antipyretic, for healing of wounds. The smoke of its leaves is used as mosquito repellent and for curing asthma.

- **Botanical Name:** *Carthamus oxycantha* M.B.
 - **Family Name:** *Asteraceae*
 - **Local Name:** Kunzala
 - **Flowering Period:** May-July
 - **Part Used:** seed
 - **Uses:** seeds are eaten by mothers for increased milk production. Oil obtained from its seeds is used as brain tonic.

- **Botanical Name:** *Chenopodium album* L.
 - **Family Name:** *Chenopodiaceae*
 - **Local Name:** Surma
 - **Flowering Period:** February-March
 - **Part Used:** leaves and root.
 - **Uses:** Juice of the leaves is used as laxative. Decoction of the root is used in jaundice and urinary diseases.

- **Botanical Name:** *Convolvulus arvensis* L.
 - **Family Name:** *Convolvulaceae*
 - **Local Name:** Purvuthie
 - **Flowering Period:** December-January
 - **Part Used:** leaves and root
 - **Uses:** Decoction of its leaves and root is used as purgative.

- **Botanical Name:** *Cynodon dactylon* (L.) Pers.
 - **Family Name:** *Poaceae*
 - **Local Name:** Baruwa
 - **Flowering Period:** June-July
 - **Part Used:** shoot and leaves
 - **Uses:** Decoction of the leaves and shoot when mixed with milk is used for curing bleeding piles, irritation of urinary tract and for vomiting. Paste of the fresh leaves and stem is applied on wounds to stop bleeding.

- **Botanical Name:** *Cyperus rotundus* L.
 - **Family Name:** *Cyperaceae*
 - **Local Name:** Deelie
 - **Flowering Period:** June-July
 - **Part Used:** leaves
 - **Uses:** Its leaves are used as purgative. Decoction of the leaves is also used as anthelmintic. Paste of the leaves is used in skin disorders.

- **Botanical Name:** *Datura stramonium* L.
 - **Family Name:** *Solanaceae*
 - **Local Name:** Barbaka
 - **Flowering Period:** May-July
 - **Part Used:** leaves and seeds
 - **Uses:** Leaves when mixed with mustard oil is useful in skin disorders. Juice of flower petals is used in ear pain. Seeds are used as purgative, in cough, fever and asthma. Seeds are smoked for its narcotic action.

- **Botanical Name:** *Euphorbia heliscopia* L.
 - **Family Name:** *Euphorbiaceae*
 - **Local Name:** Purporai
 - **Flowering Period:** February-April
 - **Part Used:** shoot
 - **Uses:** Its dried shoot powder is used in skin diseases.
- **Botanical Name:** *Fagonia cretica* L.
 - **Family Name:** *Zygophyllaceae*
 - **Local Name:** Spelaghzai
 - **Flowering Period:** throughout the year
 - **Part Used:** leaves and young branches
 - **Uses:** Juice of leaves and young branches mixed with sugar and water is used for blood purification and allergies.
- **Botanical Name:** *Fumaria indica* (Haussk).H.N., pugsley
 - **Family Name:** *Fumariaceae*
 - **Local Name:** murghipal
 - **Flowering Period:** February-March
 - **Part Used:** whole plant
 - **Uses:** The plant is crushed and mixed with sugar and then it is used for blood purification, digestion, allergies and leprosy.
- **Botanical Name:** *Lathyrus aphaca* L.
 - **Family Name:** *Papilionaceae*
 - **Local Name:** Zangli mataar
 - **Flowering Period:** November-February
 - **Part Used:** seeds and root
 - **Uses:** Seeds are edible and narcotic. Roots are given to cattle's as disinfectant.
- **Botanical Name:** *Lepidium sativum* L.
 - **Family Name:** *Brassicaceae*
- **Local Name:** Bushta
- **Flowering Period:** March-April
- **Part Used:** leaves
- **Uses:** Its leaves are laxative and also used as anthelmintic.
- **Botanical Name:** *Malvestrum coromandelianum* (L) cark
 - **Family Name:** *Malvaceae*
 - **Local Name:** khsu beeta
 - **Flowering Period:** April-May
 - **Part Used:** leaves
 - **Uses:** The poultice of leaves is used on sores and wounds. Paste of the leaves is used as emollient.
- **Botanical Name:** *Medicago polymorpha* L.
 - **Family Name:** *Papilionaceae*
 - **Local Name:** Malkindie
 - **Flowering Period:** April-May
 - **Part Used:** leaves and young stem
 - **Uses:** leaves and young stem are used as digestive, laxative and tonic.
- **Botanical Name:** *Melilotus alba* Desr.
 - **Family Name:** *Papilionaceae*
 - **Local Name:** Shunzai
 - **Flowering Period:** April-May
 - **Part Used:** whole plant
 - **Uses:** Its poultice is used on inflammation and swellings. Its seeds are useful in dysentery and diarrhea.
- **Botanical Name:** *Portulaca oleracea* L.
 - **Family Name:** *Portulacaceae*
 - **Local Name:** wurk hurha
 - **Flowering Period:** May-June
 - **Part Used:** leaves and stem
 - **Uses:** Leaves and stem are useful in urinary tract problems and also in curing digestive disorders.

- **Botanical Name:** *Ranunculus muricatus* L.
 - **Family Name:** *Ranunculaceae*
 - **Local Name:** Zaergulai
 - **Flowering Period:** March-April
 - **Part Used:** whole plant
 - **Uses:** Decoction of the plant is useful in various diseases of cattle's and also effective in cough and asthma.

- **Botanical Name:** *Ricinus communis* L.
 - **Family Name:** *Euphorbiaceae*
 - **Local Name:** Rund
 - **Flowering Period:** throughout the year
 - **Part Used:** leaves and seed
 - **Uses:** Decoction of the leaves is emetic. Oil obtained from its seeds is used as purgative. Castor oil massage on baby abdomen relieves his abdominal pain.

- **Botanical Name:** *Rosa moschata* Herm
 - **Family Name:** *Rosaceae*
 - **Local Name:** Zanglee gulap
 - **Flowering Period:** june-july
 - **Part Used:** flowers
 - **Uses:** Gulkand is made from the flowers which is refrigerant, laxative and tonic.

- **Botanical Name:** *Solanum nigrum* L.
 - **Family Name:** *Solanaceae*
 - **Local Name:** kunsebai
 - **Flowering Period:** July-October
 - **Part Used:** leaves, young stem and fruit
 - **Uses:** Poultice of the leaves is effective in skin disease. Juice of the fruit is useful in jaundice and hears diseases. Fruits are also used as tonic and diuretic.

- **Botanical Name:** *Solanum surratense* Burm.f.
 - **Family Name:** *Solanaceae*
 - **Local Name:** Mara ghinrhye
 - **Flowering Period:** June-July
 - **Part Used:** fruits
 - **Uses:** The grinded fruits are used in intestinal diseases and abdomen pain. Fruits decoction is found effective in toothache. Fruits are useful in diabetes.

- **Botanical Name:** *Trachyspermum ammi* L.
 - **Family Name:** *Umbellifereae*
 - **Local Name:** Sperkiye
 - **Flowering Period:** May-July
 - **Part Used:** seeds
 - **Uses:** its mixture with black salt improves digestion.

- **Botanical Name:** *Vitex negundo* L.
 - **Family Name:** *Verbenaceae*
 - **Local Name:** Marmandye
 - **Flowering Period:** April-May
 - **Part Used:** leaves, branches and roots
 - **Uses:** A paste of its leaves and wheat flour is useful in skin disease. Leaves smoke is helpful in relieving headache. Its decoction is used as anthelmintic.

4. Discussion

In the present ethnobotanical study 27 commonly used weed species were collected from Bannu District belonging to 19 different families. These weed species are quite effective remedies for different diseases such as headache(*Vitex negundo*), diabetes (*Solanum surratense*), toothache (*Solanum surratense*), jaundice (*Chenopodium album*), intestinal diseases (*Solanum surratense*), asthma (*Achyranthes aspera*), dysentery (*Melilotus alba*), diarrhea (*Melilotus alba*), fever (*Datura stramonium*), urinary tract(*Chenopodium*

album), bleeding piles(*Cynodon dactylon*), skin disorders(*Cyperus rotundus*) and cough(*Ranunculus muricatus*). The local people uses these weed species as remedies for the treatment of various diseases and have for a long time dependent on them. However, due to modern cultural changes and advancement in every field of life style, the use of weeds for medicinal purposes is decreasing. In Musakhel and Barkhan Districts of Balochistan the local people uses plant for the ailment of various disease. It is reported that *Tribulus terrestris* is effective in urino-genital inflammation, *Acacia nilotica* in cancerous and syphilitic infections and *Mentha spicata* leaves powder in toothache (Shah *et al.*, 2006). As Ibrar reported from District Abbotabad 35 weed species of crops which are locally used for common diseases such as cough, fever, diarrhea, pain, worms and skin diseases (Ibrar *et al.*, 2003). As the knowledge about the uses of various parts of these commonly used weeds by the local inhabitants for different diseases as remedies is transferred orally from generation to generation. Therefore, the present author concluded that the information about these commonly used weed species and their remedies must be recorded, preserved and documented before it is lost forever.

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