



## Medicinally Important Underground Fruit and Leafy Vegetables of Frontier Regions of Bannu, Khyber Pakhtunkhwa, Pakistan

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### Abstract:

*The survey was carried out randomly to get information and documentation of underground, fruit and leafy vegetables of selected areas of Frontier Regions of Bannu, during 2013. A total of 26 plants belonging to 11 families were collected which are used as vegetables in the Frontier regions of District Bannu and some grow in wild habitats and majority are cultivated. These 26 vegetable plants species are widely used for the treatment of a variety of diseases by the local communities. The documentation contains Botanical names of plants, family names local names, parts used and medicinal uses. These plants belong to the following families, Cucurbitaceae ( 5 spp ),*

*Solonaceae ( 5 spp), Chenopodiaceae ( 4 spp), Brassicaceae ( 3 spp), Alliaceae ( 2 spp), Fabaceae ( 2 spp), Malvaceae ( 1 spp), Amaranthaceae (1 sp), Apiaceae ( 1 spp) , , Convolvulaceae ( 1 sp) & Zingiberaceae ( 1 Sp). Vegetables are a rich source of vitamins and micronutrients and they are used to improve immune system and are a cheap source of antibacterial, antifungal, anti- inflammatory, anti-diabetic, anti- protozoal and anti-dysenteric agents and are used to treat various infectious disease.*

**Key Words:** medicinal vegetables, FR- Bannu

## **Introduction**

Pakistan is rich in medicinal plants and it includes almost 6000 flowering plants which have great medicinal importance. In Pakistan 200 different plant species are used to treat a variety of skin disorders, diarrhea and dysentery, gastrointestinal diseases, urinary diseases and kidney diseases (Hayat et al. 2008). A lot of plants are used by local people for the prevention of gastric or digestive disorders (Sidhu et al. 2007). Vegetables have good health effects it improve immune system (Ather and Nasir 2005).

Nowadays people use vegetable plants but only few communities cultivate them, while most of the plants are present in the wild habitats and human vegetable consumption is based on a rather very limited number of crops (Bussmann and Sharon 2006, Kunwar et al. 2006, Cavender 2006, Pieroni et al. 2007). Vegetables constitute an important part of daily diet (Pandey 2008). The indigenous knowledge about the medicinal plants is gathered by many local people from various regions of Pakistan (Tareen et al. 2002; Durrani et al. 2003; Durrani and Manzoor 2006; Manzoor et al. 2013).

## **Materials and Methods**

A number of field trips were arranged to the different villages in the Frontier Regions of district Bannu Khyber Pakhtunkhwa, like Painsa Khel, Sada Khel, Amal Khel, Tarkhuba, Azim killa, Marghali, Musa Khel, Waligai, Bezan Khel and Saifaal Khel etc. during the year 2013 in order to categorize those underground, fruit and leafy vegetable plant species which are mainly used for the treatment of various

disorders. The information was together by using questionnaires and interviews with traditional plant users. The plant specimens were recognized with the help of flora of Pakistan by using the Nomenclature of Nasir and Ali (2005) and voucher specimens are deposited in the Department of Botany, University of Science and Technology, Bannu Khyber Pakhtoonkhwa, Pakistan.

## Results and Discussion

The study revealed that 26 underground, fruit and leafy vegetable plants belonging to 11 families were identified in the Frontier Regions of Bannu for the preventive, protective and curative purposes. The plants were mostly cultivated while some grow in wild habitats as well. The plants examined included *Abelmoschus esculentus* (L.) Moench, *Allium cepa* L., *Allium sativum* L., *Amaranthus viridis* L., *Beta vulgaris* L., *Brassica oleraceae* Crucifera var. Capitata, *Brassica oleraceae* var. botrytis, *Capsicum annum* L., *Cicer arietinum* L., *Chenopodium album* L., *Chenopodium murale* L., *Cucumis sativus* L., *Cucurbita pepo* L., *Daucus carota* L., *Ipomoea batatas* (L.) Lam., *Luffa acutangula* (L.) Roxb., *Lycopersicum esculentum* Mill., *Momordica charantia* L., *Phaseolus vulgaris* L., *Praecitrullus fistulosus* (Stocks) Pang, *Raphanus sativus* L., *Spinacia oleraceae* L., *Solonum nigrum* L., *Solanum tuberosum* L., *Solanum melongena* L. and *Zingiber officinale* Rosc.. *Abelmoschus esculentus* (L.) Moench unripe fruit is used to treat asthma, cough and bronchitis, *Allium cepa* L. and *Allium sativum* L. are useful in cardiovascular problems, blood pressure and diabetes, *Amaranthus viridis* L. is important to treat stomach problems, *Beta vulgaris* L. is used in inflammation, earache and stomach problems, *Phaseolus vulgaris* L. is used to degrade body fat, *Praecitrullus fistulosus* (Stocks) Pang used in gastric problems. *Zingiber officinale* Rosc. rhizome is used to get relief from stomach problems etc.

## Enumeration of Plants

No.(1) Plant Name: *Abelmoschus esculentus* (L.) Moench

Family: Malvaceae

English Name: Lady's Finger

Local Name: Bhindh

Position: Fruit vegetable

Parts Used: Unripe fruit

Medicinal Uses: Fruit is used to treat throat, cough and bronchitis infections.

No.(2) Plant Name: *Allium cepa* L

Family: Alliaceae

English Name: Onion

Local Name: Pyozh

Position: Underground vegetable

Parts Used: Fleshy leaves and green leaves

Medicinal Uses: Leaves are a rich source of vitamin-C and they are used to treat cardiovascular diseases and diabetes.

No.(3) Plant Name : *Allium sativum* L.

Family: Alliaceae

English Name: Garlic

Local Name: Yeza

Position: Underground Vegetable

Part Used: Fleshy leaves and green leaves

Medicinal Uses: Plant parts are used to treat cardiovascular diseases, Blood pressure, Headache, Diabetes and tumors.

No.(4) Plant Name: *Amaranthus viridis*.L.

Family: Amaranthaceae

English Name: Wild Amaranth

Local Name: Ranzakaa

Position: Leafy vegetable

Parts Used: Leaves

Medicinal Uses: It is used to treat constipation, also used for stomach problems.

No.(5) Plant Name: *Beta vulgaris* L.

Family: Chenopodiaceae

English Name: Beet

Local Name: Chakandar

Position: Under Ground Vegetable

Parts Used: Roots and Leaves

Medicinal Uses: Plant parts are used to treat constipation, inflammation, earache and Ulcers.

No.(6) Plant Name: *Brassica oleraceae* Crucifera var. Capitata  
Family: Brassicaceae  
English Name: Cabbage  
Local Name: Band Ghobai  
Position: Fruit Vegetable  
Parts Used: Leaves  
Medicinal Uses: Plant parts are used to treat kidney problems

No.(7) Plant Name: *Brassica oleraceae* var. botrytis  
Family: Brassicaceae  
English Name: Cauliflower  
Local Name: Phol ghobhi  
Position: Herbage Vegetable  
Parts Used: Inflorescence  
Medicinal Uses: The plant parts are used as chemoprotective and antidiabetic.

No. (8) Plant Name: *Capsicum annuum* L.  
Family: Solanaceae  
English Name: Pepper  
Local Name: Mirch  
Position: Fruit vegetable  
Parts Used: Fruits, seeds  
Medicinal Uses: They are a rich source of vitamin C and are stimulant and carminative.

NO.(9) Plant Name: *Cicer arietinum* L.  
Family: Fabaceae  
English Name: Chickpea  
Local Name: Channa  
Position: Fruit vegetable  
Parts Used: Fruit and seeds  
Medicinal Uses: They are used for cardiovascular, anti ulcer and heart diseases.

No.(10) Plant Name: *Chenopodium album* L.  
Family: Chenopodiaceae  
English Name: White Goose foot  
Local Name: Speen sumai  
Position: Leafy vegetable  
Parts Used: Leaves  
Medicinal Uses: The leaves are diuretic, sedative and laxative.

NO.(11) Plant Name: *Chenopodium murale* L.

Family: Chenopodiaceae

English Name: Nettle leaved Goose foot

Local Name: Surmai

Position: Leafy Vegetable

Parts Used: Leaves

Medicinal Uses: The leaves are diuretic, sedative and laxative

No.(12) Plant Name: *Cucumis sativus* L.

Family: Cucurbitaceae

English Name: Cucumber

Local Name: Badrang

Position: Fruit Vegetable

Parts Used: Fruit

Medicinal Uses: Used as salad and anti inflammatory agent.

No.(13) Plant Name: *Cucurbita pepo* L.

Family: Cucurbitaceae

English Name: Pumpkin

Local Name: Kado

Position: Fruit Vegetable

Parts Used: Fruit

Medicinal Uses: Used in the treatment of obesity, irritable bladder in children and gastric problems

No.(14) Plant Name: *Daucus carota* L.

Family: Apiaceae

English Name: Carrot

Local Name: Gagar

Position: Underground Vegetables

Parts Used: Root

Medicinal Uses: roots are used to improve eye sight, Prevent cancer, antioxidant and blood purification.

No.(15) Plant Name: *Ipomoea batatas* (L.) Lam.

Family: Convolvulaceae

English Name: Sweet potato

Local Name: Khwash alo

Position: Root vegetable

Parts Used: Root

Medicinal Uses: Used to treat allergies, cardiovascular problems, cancer, HIV and ageing

No.(16) Plant Name: *Luffa acutangula* (L.) Roxb.

Family: Cucurbitaceae

English Name: Angular loofah

Local Name: Tori

Position: Fruit vegetable

Parts Used: Fruit

Medicinal Uses: It is used to treat diabetes, Ulcers, laxative and expectorant.

No.(17) Plant Name: *Lycopersicum esculentum* Mill.

Family: Solanaceae

English Name: Tomato

Local Name: Tamator

Position: Fruit Vegetable

Parts Used: Fruit

Medicinal Uses: To treat illness, improve growth, maintaining blood and used in inflammation

No.(18) Plant Name: *Momordica charantia* L.

Family: Cucurbitaceae

English Name: Bitter gourd

Local Name: Kareela

Position: Fruit Vegetable

Parts Used: Fruit

Medicinal Uses: Used in Diabetes, Treat cough, bronchitis, antioxidant and ulcers

No.(19) Plant Name: *Phaseolus vulgaris* L.

Family: Fabaceae

English Name: Kidney Bean

Local Name: Lobia

Position: Fruit vegetables

Parts Used: Fruit

Medicinal Uses: Decrease glucose level and decrease body fat.

No.(20) Plant Name: *Praecitrullus fistulosus* (Stocks) Pang.

Family: Cucurbitaceae

English Name: Round melon

Local Name: Tinda

Position: Above Ground vegetable

Parts Used: Unripe fruit

Medicinal Uses: It has anthelmintic and antioxidant activities sometimes used for gastric problems

No.(21) Plant Name: *Raphanus sativus* L.

Family: Brassicaceae

English Name: Radish

Local Name: Mooli

Position: Underground Vegetable

Parts Used: Root

Medicinal Uses: Rich source of vitamin C used to treat Jaundice and earache.

No.(22) Plant Name: *Solanum nigrum* L.

Family: Solanaceae

English Name: Black nightshade

Local Name:

Position: Fruit vegetable

Parts Used: Fruit

Medicinal Uses: It is used against stomachache, fever and dysentery complaints.

No.(23) Plant Name: *Spinacia oleracea* L.

Family: Chenopodiaceae

English Name: Spinach

Local Name: Sobah

Position: leafy vegetable

Parts Used: Leaves

Medicinal Uses: To treat cardiovascular diseases, rich in vitamin A, Anemia and Antioxidant.

No.(24) Plant Name: *Solanum tuberosum* L.

Family: Solanaceae

English Name: Potato

Local Name: Aleg

Position: Underground vegetable

Parts Used: Stem and tubers

Medicinal Uses: It is a rich source of carbohydrates and is used in cough and flu.



No.(25) Plant Name: *Solanum melongena* L.

Family: Solanaceae

English Name: Egg Plant

Local Name: Bengarah

Position: Fruit Vegetable

Parts Used: Fruit

Medicinal Uses: It is a rich source of iodine and used to treat diabetes, Asthma and reduce cholesterol level.

No.(26) Plant Name: *Zingiber officinale* Rosc.

Family: Zingiberaceae

English Name: Ginger

Local Name: adrak

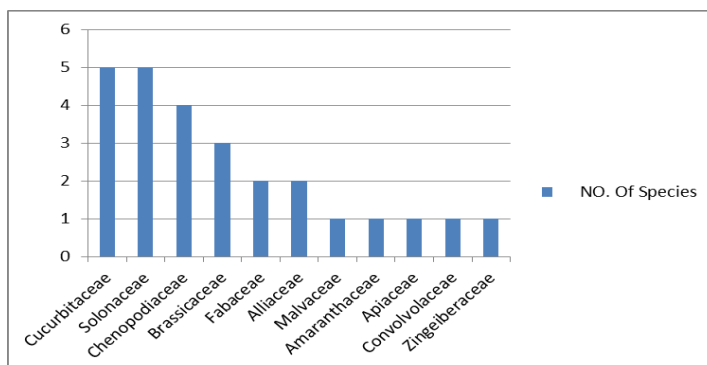
Position: Fruit Vegetable

Parts Used: Fruit

Medicinal Uses: It is used for gastrointestinal problems.

**Table 1. Species Distribution in Various Families**

Name of family	No. of Species
Cucurbitaceae	05
Solanaceae	05
Chenopodiaceae	04
Brassicaceae	03
Fabaceae	02
Alliaceae	02
Malvaceae	01
Amaranthaceae	01
Apiaceae	01
Convolvaceae	01
Zingeiberaceae	01
Total No. 11	Total No. 26



**Fig: 1 Graphic representation of Species Distribution in Various Families**

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