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## **An Ethnomedicinal Survey and Documentation of Important Medicinal Folklore Food Pythonims of Flora of Samahni Valley, (Azad Kashmir) Pakistan**

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**Abstract:** Ethnobotanical knowledge is one of the precious cultural heritage parts of an area that involves the interaction between plants and people and foremost among these are the management of plant diversity by indigenous communities and the traditional use of medicinal plants. An ethnobotanical analysis was conducted in order to document the traditional medicinal uses of plants, particularly medicinally important folklore food pythonims of flora of Samahni valley, Azad Kashmir (Pakistan). In the valley, inhabitants use different taxa of flora in two different ways; herbal medicines and food (vegetable and fruits) medicines. The distinctive geographic position and historic demological background of the area keep folk phytotherapy potential of medicinal herbs hitherto alive, which are used in various forms; as regular herbal medicines prescribed by Hakeems (herbal practitioners) and as food (medicines) recepies suggested by elder people. Among these, some herbs are used as single remedy while others depict better curative effects in synergistic mode against various ailments. Some interesting and uncommon findings are as; *Sisymbrium irio* is used for treatment of measles, asthma; *Solanum miniatum* to cure urinary calculi, heart pain, rheumatism, *Momordica balsamina* leaves as wound healer; *Allium sativum* bulb juice as anti cancer, contraceptive, blood pressure; *Boerhavia diffusa* roots as anti jaundice, anemia, edema; *Capsicum annuum* fruit as omen against evil eye and giant, yellow fever; *Corriandrum sativum* seeds as diuretic, anti spermatogenesis; *Raphanus sativus* seeds against syphilis; *Solanum miniatum* fruit for treatment of enlarged spleen and liver; seed's oil of *Pisum sativum* as anti spermatogenesis; *Bauhinia variegata* for skin diseases, ulcers; *Malva sylvestris* for cough, bladder ulcer; *Phoenix sylvestris* kernel as anti-aging tonic; *Phyllanthus emblica* for diuretic, anemia, biliousness; *Terminalia chebula* to cure chronic ulcers, carious teeth pain, heart problems; *Veronica anthelmintica* for bandage of broken bones and *Withania coagulans* is used to treat small pox. Many wild plants are eaten green and raw as salad, or in boiled form of soup as blood and intestine cleansing tonics. Moreover, some plants are spiritually recorded as sacred and used as ritual plant for good omens or against the evil eye and removal of giant. About 95 species of 38 families were recorded to be important part of phyto heritage of folk pharmacopoeia of Samahni valley. Among most frequent used families are Papilionaceae 9.47%, Solanaceae and Poaceae 8.42% each, Cucurbitaceae 7.36% and Brassicaceae and Rosaceae 6.31% each. Among the surveyed families used to treat various diseases, Solanaceae is at first rank with 9.74%, Brassicaceae 8.23% and Cucurbitaceae 7.39% subsequently. Most commonly used families with highest percentage of plants used as food medicines are Solanaceae (11.37%), Brassicaceae (8.38%) and Papilionaceae (7.18%) respectively. Most frequent plant parts used are; roots, leaves, seeds and flowers while popular forms of plants uses are decoction, poultice, infusions, soups and raw form as salad. Importance of ethnobotanical inventory constructed from ethnomedicinal uses and folklore pythonims of flora in perspectives of initiative for future phytochemical and pharmacological research on these taxa to develop and discover of new drugs is present and discussed.

**Key words:** Medicinal plants, ethnobotany, food medicines, folk phytotherapy, Samahni valley, Azad Kashmir, Pakistan

## INTRODUCTION

Ethnobotanical knowledge is one of the precious cultural heritage part of an area that depicts the life-style and relationship of local community with their environment and their mutual interaction has profound importance for long term survival of people and biodiversity in an ecosystem. Generally, ethnobotanical studies involve the interaction between plants and people and foremost among these are the management of plant diversity by indigenous communities and the traditional use of medicinal plants. The vast body of indigenous knowledge concerning biodiversity is vanishing with the destruction of ecosystems and traditional cultures throughout the world. This destruction has led to an increased awareness of the necessity of ethnobotanical research. Medicinal plants provide health security to millions of rural people all over the world. According to WHO estimations over 80% of people in developing countries depend on traditional medicines for their primary health needs (Farnsworth and Soejarto, 1991). Demand for medicinal plant is increasing in both developing and developed countries due to growing recognition of natural products, being non-narcotic, having no side-effects, easily available at affordable prices and often the only source of healthcare facility available to the poor communities.

A detailed systematic exploration of traditional ethnobotanical knowledge of flora of Samahni valley is inevitable because of its geographic and historic importance as well as industrial encroachment has not yet completely diminished folklore medicines. The present article describes ethno-pharmaco importance of flora of Samahni valley being used as regular herbal medicines or conventional (food) medicines as vegetables and fruits. Albeit plants described here as food medicines are used frequently and but little is known about practice of food therapy in literature about this valley. Such medicines cuisines have key and vital role in traditional folk medicinal practices in human history (John, 1980; Etkin and Ross, 1993; Etkin, 1994, 1996). Some of these phytonims or recipes are very historical since they are practised since ancient times.

Samahni is one of the most beautiful valleys of state of Azad Kashmir (Pakistan), located in zone of district Bhimber (A.K). Geographically it is located between 33.05°N latitude and 74.82°E longitude. The valley is encompassed by district Mirpur and (Tehsil) Bhimber on western and southern sides, respectively. On other two sides it shares its boundary with Jammu and Kashmir (Occupied Kashmir). The valley has typically mountainous terrain ca.975 m above sea level, with north

and south facing high and lofty hills with variable vegetation distribution due to different altitude and topography (Muhammad Ishtiaq *et al.*, 2006a). The annual rainfall is abundant ca. 150 cm, with variable temperature ranging between 1-42°C. Major economic source of inhabitants is agriculture, sale of wild medicinal plants, forest products, but other sources as business and other governmental or non-governmental services also provide subsistence for livelihood (Muhammad Ishtiaq *et al.*, 2006b).

Different ethnic tribes residing in far and remote parts of the valley harbour the vast diversified flora. But recently, there is growing trend towards modernization, so traditional agro-sylvo-pastoral life style is being declined gradually. But in some parts of valley ethnic minorities still solely depend on local traditional ethnopharmacological recipes as in form of botanic drugs or food therapies to cure various ailments. Some ethnobotanical research work has been conducted on different areas of Azad Kashmir (Shahzad *et al.*, 1999; Shahzad and Qureshi, 2001; Dastagir, 2001; Bukhari, 1996; Rasool, 1998; Gorski and Shahzad, 2002). Although some ethnobotanical research on Samahni valley has reported previously by Muhammad Ishtiaq *et al.* (2001) and (2006a,b), but perusal of literature indicates that hitherto no comprehensive ethnobotanical survey about local flora used as herbal medicines and particularly as folklore phytonims (food medicines) of plants has been conducted or published on Samahni valley of Azad Kashmir, Pakistan.

The aim of present study was to focus on documentation of these precious historic and cultural ethnomedicinal uses of the flora being used in form of herbal drugs or conventional (traditional food phytonims) medicines (vegetable/fruits) in local pharmacopoeias. This attempt of documentation of regular herbal medicinal and conventional food medicinal uses of plants will provide incentives for preservation of traditions and culture of Samahni valley on one hand and on other side it will also help in conservation of biodiversity and initiation of incentives for phytochemical investigations on medicinally important species to develop and produce new drugs.

## MATERIALS AND METHODS

Generally, well planned experimental design produces good results. Different methodologies are being used to document the ethnomedicinal knowledge by different ethnobotanists. For this ethnobotanical survey plan was designed, structured and random interview methods were applied according to Martin's protocol (Martin,

1995). The folklore medicinal knowledge was recorded during planned field trips, conducting regular interview with well knowledgeable people of the area comprising of 20 Hakeems (doctor who prescribes regular herbal medicines), 15 Sanyasies (person who usually lives in forests and has fair knowledge of herbs) and 10 Bokarwals (tribes who live in mountains as nomadic tribes) because regular herbal and phytotherapeutical knowledge resides with medicines men and women. The interviewees were mostly men (45-70 years old) and only few ladies (40-55 years old) because former explore forests more frequently than latter ones. For data collection of conventional (food) medicinal uses of plants, a comprehensive survey was carried to collect informations. In this case no criteria were selected; because purpose of this work was to assess the breadth of popular heritage in the field of food medicines, knowledge of which is wide spread among the communities. For this 500 people without regard of their gender and age were interviewed randomly from different villages of valley so that data collected represent views and knowledge of broad community of the area. Among the informants 250 were farmers, herbs collectors (women) the others mainly building workers, restaurateurs, shepherds and housewives. A questionnaire was filled in order document ethnomedicinal data and it was compared with previously cited literature. The inhabitants described medicinal uses of plants in local dialects and usually ranked the plant according to its medical uses as it good, it is very good or it is excellent tonic for this diseases. The herbs were said to be used in different forms as poultice, juice, decoction, infusions, or simple fresh plant. It was preferred to classify the plants according to their importance as food medicines by analyzing different assertions which were made during survey. The obtained data of plants were divided into four classes according to their intensity of usefulness as food medicines: no use, little use, fair use and high use. The plants described by the community people were collected and their herbaria specimens were prepared, identified with help of literature available about flora of Pakistan (Stewart, 1982; Nasir and Ali, 1970-2002) and placed in herbarium of Quaid-e-Azam University Islamabad, Pakistan, for future reference. The obtained ethno-pharmaco informations regarding the use of medicinal plants were compared with literature available Muhammad Ishtiaq *et al.* (2001) and (2006a-b). The interesting and uncommon uses of some taxa are presented and their medicinal importance is discussed.

## RESULTS AND DISCUSSION

In present ethnobotanical study of Samahni valley, it was observed that local inhabitants of area use many

plants as ethnomedicinal herbs and as food medicines (Table 1). About 95 plant species are recorded which belong to 38 families with Papilionaceae 9.47%, Solanaceae and Poaceae 8.42% each, Cucurbitaceae 7.36% and, Brassicaceae and Rosaceae 6.31% each (Fig. 1). Among the surveyed families used to treat various diseases, Solanaceae is at first rank with 9.74%, Brassicaceae 8.23% and Cucurbitaceae 7.39% subsequently (Fig. 2). Most commonly used families with highest percentage of plants used as food medicines are Solanaceae (11.37%), Brassicaceae (8.38%) and Papilionaceae (7.18%) respectively (Fig. 3). Most frequent plant parts were recorded and their traditional ethnobotanical knowledge and medicinal properties were documented, as quoted by informants. Some of the recorded uses are common and already documented in scientific literature and others are original. Exotic species and other supposed health plants were not considered; only native plants of area are documented in this report. The most interesting uses and aspects of collected data are discussed.

**New phytotherapeutic reports:** The species presented in Table 1 were quoted by at least three informants and recorded data were compared with available literature. Uncommon and interesting uses were recorded for *Allium sativum*, *Boerhavia diffusa*, *Capsicum annum*, *Corriandrum sativum*, *Pisum sativum*, *Raphanus sativus* and *Solanum miniatum* sp. For these botanicals, the folk phytonims prescriptions collected in study area are also unknown both in the old medical treatises and in the modern phytopharmacology.

***Allium sativum*:** Its bulb is used as anticancer and effective in blood pressure problems. Its bulb extract is used as folklore medicine for female contraceptive for fertilization.

***Boerhavia diffusa*:** Its roots are expectorant, antihelmintic. Its roots pieces are used as garland in neck of jaundice patient for relief as ritual plant. Its roots are very effective in anaemia, ascoites and edema.

***Capsicum annum*:** Its fruit is used treating scarlatina, dyspepsia and snakebite. It is considered a good omen plant against effects of evil eye and giant influence on a person.

***Corriandrum sativum*:** Its seeds soaked in water overnight are used as birth control by check of spermatogenesis. Its fruit is also good in aphrodisiac, anti-biliousness and preventing foul breath.

Table 1: Ethnobotanical and food medicinal uses of plants of Samahni valley (A.K.)

Scientific name:	<i>Abelmoschus esculentus</i> (L) Moench	Family: Malvaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 34.	Local name: Bhindi
Plant part used:	Fruit, Mucilage from seeds and fruit	
Medicinal uses:	The young immature fruits are used in decoction as demulcent, emollient, diuretic in catarrhal affections. Mucilage from seeds is used in gonorrhoea. It is common tonic for chronic constipation used by community.	
Food popular uses:	Cooked as vegetable	
Role as food medicine:	**	
Scientific name:	<i>Allium cepa</i> L.	Family: Liliaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 33.	Local name: Piaz (Ganda)
Plant part used:	Leaves and bulb	
Medicinal uses:	Leaves are used as spices to make dishes tasty and it enhances digestion of food. Bulb is stimulant, diuretic, expectorant, aphrodisiac, anti-flatulence and dysentery. Its scales are heated or roasted in oil then pasted on wounds and boils to heal or cure it soon because it is considered as bactericidal. It is also given in snakebite with desi ghee to lessen poison. Its juice is used for earache and its little drops of extracts are poured in nasal cavity to get prompt relief from flu and seasonal cold.	
Food popular uses:	Cooked as condiment with other dishes and also used as raw form as salad.	
Role as food medicine:	***	
Scientific name:	<i>Allium sativum</i> L.	Family: Liliaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 12.	Local name: Lehsan. (Thom)
Plant part used:	Bulb and leaves.	
Medicinal uses:	Bulb is carminative, expectorant and stimulant in fever and cough. Its juice is used as rubifacient in skin diseases. It is also used as tonic in dyspepsia, flatulence, colic and antiseptic. It is said to be effective as anti-cancer and blood pressure ailments in folklore recepies. Its bulb is used as contraceptive by women in villages.	
Food popular uses:	Cooked as condiment and it is good tonic to dispel smell of cooked fish.	
Role as food medicine:	***	
Scientific name:	<i>Amaranthus viridis</i> L.	Family: Amaranthaceae Wild
Wild (W) or cultivated (C) and Field number:	W. ISL:04.	Local name: Chulair
Plant part used:	Wild leaves	
Medicinal uses:	Herb is cooling, astringent and emollient. Its leaves are cooked as green vegetable and said to be curative in stomachache due to dysentery.	
Food popular uses:	Cooked as vegetable	
Role as food medicine:	*	
Scientific name:	<i>Amaranthus spinosus</i> L.	Family: Amaranthaceae
Wild (W) or cultivated (C) and Field number:	W. ISL: 89.	Local name: Chulair booti
Plant part used:	Root and leaves	
Medicinal uses:	Root is used in gonorrhoea, eczema, colic and as lactagogue. Leaves and roots are laxative, emollient, used on boils and as poultice on abscess. Its leaves are eaten as green dish to get rid of constipation.	
Food popular uses:	Cooked as vegetable	
Role as food medicine:	**	
Scientific name:	<i>Avena sativa</i> L.	Family: Poaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 87.	Local name: Jao, jai
Plant part used:	Seeds.	
Medicinal uses:	Seeds are nerve tonic, stimulant, laxative and antiseptic. It seeds are roasted, ground to powder and taken with desi ghee as body vigour tonic.	
Food popular uses:	Seeds roasted and ground into flour and used with sugar for making juice in summer for relief of thirst and stomach heat.	
Role as food medicine:	**	
Scientific name:	<i>Bauhinia variegata</i> L.	Family: Caesalpinaceae
Wild (W) or cultivated (C) and Field number:	W. ISL: 66.	Local name: Kachnar
Plant part used:	Bark, flower buds and roots.	
Medicinal uses:	Bark is alterative, antihelmintic tonic, useful in skin diseases, ulcers and scrofula. Dried buds are crushed and used in dysentery, piles diarrhoea and worms. Decoction of root is used in dyspepsia. Root is boiled and its decoction is used as antidote to snake bite.	
Food popular uses:	Its flower buds are cooked as vegetable.	
Role as food medicine:	***	
Scientific name:	<i>Beta vulgaris</i> L.	Family: Chenopodiaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 09.	Local name: Chakkandar
Plant part used:	Seeds and leaves	
Medicinal uses:	Seeds are considered to be cooling and diaphoretic. Leaves waxed with oil are applied to burns and bruise to cure soon. Leaves are also cooked and eaten to obtain body strength.	
Food popular uses:	Cooked as vegetable and some times eaten as raw.	
Role as food medicine:	*	
Scientific name:	<i>Boerhavia diffusa</i> L.	Family: Nyctaginaceae.
Wild (W) or cultivated (C) and Field number:	W. ISL: 14.	Local name: Sanati
Plant part used:	Leaves and roots.	
Medicinal uses:	Its roots are claimed to be expectorant, diuretic, laxative, stomachic, diaphoretic, emetic, antihelmintic and purgative. Root extract is commonly used in anaemia, jaundice edema and asoites. As a psychological perspective, its roots are cut into small pieces and chained into a garland that is used by jaundice patient as remedy. Leaves are cooked as common vegetable.	
Food popular uses:	Its leaves are cooked as vegetable.	
Role as food medicine:	**	
Scientific name:	<i>Brassica oleraceae</i> L.	Family: Brassicaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 51.	Local name: Band goobi

Table 1: Continued

Plant part used:	Leaves and seeds.	
Medicinal uses:	Leaves are used in stomachic, cardio-tonic, gout and rheumatism. Seeds are used with hot water or hot milk as good tonic of diuretic, laxative, stomachic and antihelmintic. Fresh leaves in slices with tomato and onion are used green salad in daily tables.	
Food popular uses:	Cooked as vegetable and also use as raw for salad making.	
Role as food medicine:	**	
Scientific name:	<i>Brassica nigra</i> (L.) Koch	Family: Brassicaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 23.	Local name: Sarsoon.
Plant part used:	Leaves, seeds and flowers	
Medicinal uses:	Seeds are stimulant, vesicant and rubefacient, also used in snakebite. Its seeds are used put into bed of patient suffering from measles so that s/he cures soon.	
Food popular uses:	Its leaves and flowers are cooked as vegetable. Its seeds yield oil, which is used for cooking dishes. Its oil is used in pickles recepies.	
Role as food medicine:	***	
Scientific name:	<i>Brassica rapa</i> L.	Family: Brassicaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 32.	Local name: Kali Sarsoon
Plant part used:	Seed, root and leaves.	
Medicinal uses:	Roots and leaves are considered stomachic tonic. Seeds when mixed with hot water form an anti-irritant poultice, frequently applied on allergy parts. Mixture of seeds decoction with camphor and is used in muscular rheumatism, stiff neck. It is also used in dengue fever and is rubbed on chest in bronchitis as local tonic.	
Food popular uses:	Its leaves and flowers are cooked as vegetable.	
Role as food medicine:	**	
Scientific name:	<i>Capsicum annuum</i> L.	Family: Solanaceae.
Wild (W) or cultivated (C) and Field number:	C. ISL: 35.	Local name: Lal mirch
Plant part used:	Fruit.	
Medicinal uses:	Fruit is stimulant, externally used as rubefacient. It is also useful in scarlatina, putrid sore throat, hoarseness, dyspepsia, yellow fever, piles and snakebite. Usually three, five or seven chilies are moved over head of victim of Evil Eye and these chilies are burnt in fire to get rid of bad eye effects. If some one is under influence of giant, the smoke of chilies is used to get repulsion for ghost.	
Food popular uses:	Its fruit is used as condiment for cooking dishes of various tastes.	
Role as food medicine:	**	
Scientific name:	<i>Caralluma tuberculata</i> N.E. Brown	Family: Asclepiadaceae
Wild (W) or cultivated (C) and Field number:	W. ISL: 42.	Local name: Churangli
Plant part used:	Fresh green stem	
Medicinal uses:	Its juicy stem is used as tonic, febrifuge, stomachic and carminative. It is cooked as vegetable to cure rheumatism.	
Food popular uses:	Cooked as vegetable	
Role as food medicine:	*	
Scientific name:	<i>Carum carvi</i> L. (C. <i>gracile</i> Lindl.)	Family: Umbelliferae
Wild (W) or cultivated (C) and Field number:	C. ISL: 17.	Local name: Kala zera
Plant part used:	Fruit.	
Medicinal uses:	Fruit is carminative, stomachic and lactagogue.	
Food popular uses:	It is used as condiments in different dishes for good taste and smell.	
Role as food medicine:	*	
Scientific name:	<i>Ceropegia bulbosa</i> Roxb.	Family: Asclepiadaceae.
Wild (W) or cultivated (C) and Field number:	W. ISL: 121.	Local name: Galot.
Plant part used:	Tuberous roots	
Medicinal uses:	Its roots are used as tonic for digestion and good source of energy.	
Food popular uses:	Cooked as vegetable and some times used as raw.	
Role as food medicine:	*	
Scientific name:	<i>Citrullus colocynthis</i> L. Schard	Family: Cucurbitaceae
Wild (W) or cultivated (C) and Field number:	W. ISL 55.	Local name: Tuma
Plant part used:	Root and fruit.	
Medicinal uses:	Fruit and seeds are purgative. Fruit is used in biliousness, constipation, fever and intestinal disorders. Roots are given in ascites, jaundice, amenorrhoea and rheumatism. Its fruit and roots are considered to be good antidote against snakebite.	
Food popular uses:	Not used	
Role as food medicine:	**	
Scientific name:	<i>Citrullus lanatus</i> . (Thunb.) Mansf	Family: Cucurbitaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 76.	Local name: Handwana
Plant part used:	Fruit, seeds and oil.	
Medicinal uses:	Fruit is claimed to be cooling and diuretic agent. Seeds possess aphrodisiac properties. Its seeds oil is good alternative of almond oil.	
Food popular uses:	Eaten as dessert and also eaten frequently in daily life.	
Role as food medicine:	*	
Scientific name:	<i>Citrus aurantifolia</i> (Christm) Swingle	Family: Rutaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 49.	Local name: Kaghazi Nimbu
Plant part used:	Fruit	
Medicinal uses:	Its fruit is used as antiscorbic, stomachic, refrigerant, antiseptic and also used in bilious vomiting.	
Food popular uses:	Fruit is used to make pickles and also used in roasting of chicken to make it tasty. In summer it is used as quencher, heat removal and good source of Vitamin C. Its fruit bark is crushed and mixed with curd and applied for skin of face and hands to make them soft and good looking as household tonic of village ladies.	
Role as food medicine:	**	
Scientific name:	<i>Citrus aurantium</i> L.	Family: Rutaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 45.	Local name: Khatta nimbu

Table 1: Continued

Plant part used:	Fruit.	
Medicinal uses:	Fruit of this plant is bitter and used as laxative, stomachic and good source of Vitamin C. It is also used in pickles recepies.	
Food popular uses:	It is juice is used to make tasty Baryani (A Kind of Rice +Chicken).	
Role as food medicine:	*	
Scientific name:	<i>Citrus limon</i> (L.) Burm.f	Family: Rutaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 197.	Local name: Bahari nimbo
Plant part used:	Fruit.	
Medicinal uses:	Fruit juice is thought to be refrigerant and antiscorbic. Its juice with yogurt is used in scurvy, rheumatism, dysentery and diarrhoea curing. Rind (fruit scale) of ripe fruit is dried, powdered and used as carminative and stomachic.	
Food popular uses:	It is used to make pickles and thirst quencher (sharbat) in summer.	
Role as food medicine:	**	
Scientific name:	<i>Clematis vitalaba</i> L.	Family: Ranunculaceae
Wild (W) or cultivated (C) and Field number:	W. ISL: 124.	Local name: Crowfoot
Plant part used:	Leaves and young shoots	
Medicinal uses:	It is cooked and used as blood cleansing tonic. It is also considered to be good omen against evil eye.	
Food popular uses:	Cooked as vegetable and also boiled and used with eggs to make omelets.	
Role as food medicine:	**	
Scientific name:	<i>Colocasia esculanta</i> (L) Schott.	Family: Araceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 89.	Local name: Arvi
Plant part used:	Juice of pedicle and corm	
Medicinal uses:	Corm juice is used in alopecia and scorpion-sting. Its pedicle juice is stimulant and styptic.	
Food popular uses:	Cooked as vegetable.	
Role as food medicine:	**	
Scientific name:	<i>Commelina bengalensis</i> L.	Family: Commelinaceae
Wild (W) or cultivated (C) and Field number:	W. ISL: 103.	Local name: Surkara
Plant part used:	Whole plant.	
Medicinal uses:	The plant is laxative, demulcent, emollient and refrigerant. It is recommended in leprosy as good food tonic.	
Food popular uses:	Cooked as vegetable	
Role as food medicine:	*	
Scientific name:	<i>Corriandrum sativum</i> L.	Family: Umbelliferae
Wild (W) or cultivated (C) and Field number:	C. ISL: 131.	Local name: Dhania
Plant part used:	Fruit and seeds.	
Medicinal uses:	The seeds are chewed to stop foul breath. The fruit is carminative, diuretic, tonic, stimulant, aphrodisiac and anti bilious. Its seeds when soaked in water overnight are used as anti-spermatogenesis to control population rate. It is commonly used in pickles to give it good taste.	
Food popular uses:	Used as spices in many dishes and to make chatani.	
Role as food medicine:	***	
Scientific name:	<i>Cucumis melo</i> L.	Family: Cucurbitaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 86.	Local name: Kharbuza
Plant part used:	Seed and fruit.	
Medicinal uses:	Its seeds are nutritive, cooling and diuretic. The pulp of fruit is useful in chronic eczema.	
Food popular uses:	Used as fruit.	
Role as food medicine:	*	
Scientific name:	<i>Cucumis sativus</i> L.	Family: Cucurbitaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 65.	Local name: Khaira
Plant part used:	Fruit and seed	
Medicinal uses:	The seeds are tonic for cooling body heat and diuretic. Fruit is nutritive and demulcent. Fruit is taken as salad and it is good source of vitamin B1 and C.	
Food popular uses:	Eaten as raw as salad and fruit. It is used to make fruit chat.	
Role as food medicine:	**	
Scientific name:	<i>Cuminum cyminum</i> L.	Family: Umbelliferae
Wild (W) or cultivated (C) and Field number:	C. ISL: 145.	Local name: Safed zera
Plant part used:	Fruit and seed	
Medicinal uses:	Seeds are used as tonic in snakebite. Fruit is carminative, stimulant, stomachic, astringent; useful in diarrhoea, dyspepsia. It is also used in veterinary medicine. It is common condiment item in many dishes.	
Food popular uses:	Used as spices in many dishes and used to make chatani.	
Role as food medicine:	**	
Scientific name:	<i>Cynodon dactylon</i> (L) Pers.	Family: Poaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 172.	Local name: Khabul
Plant part used:	Stem and Rhizome.	
Medicinal uses:	Its infusion is used as diuretic in folklore recepies.	
Role as food medicine:	No	
Scientific name:	<i>Daucus carota</i> L.	Family: Umbelliferae
Wild (W) or cultivated (C) and Field number:	C. ISL: 181.	Local name: Gajar
Plant part used:	Leaves and rhizome	
Medicinal uses:	It is considered to be depurative and diuretic and it is eaten raw as salad to increase eyesight.	
Food popular uses:	It is used to make salad, Gajrila and to be eaten as raw in salad recepies.	
Role as food medicine:	**	
Scientific name:	<i>Eriobotrya japonica</i> (Thunmb) Lindl.	Family: Rosaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 133.	Local name: Lokat.

Table 1: Continued

Plant part used:	Fruit, leaves and flower.	
Medicinal uses:	Its flower good tonic as expectorant. Fruit is sedative, used to reduce thirst and vomiting. Infusion of leaves is used in chronic diarrhoea.	
Food popular uses:	Used as fruit	
Role as food medicine:	**	
Scientific name:	<i>Eruca sativa</i> Mill.	Family: Brassicaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 98.	Local name: Tara Mira
Plant part used:	Seeds, leaves and Flower	
Medicinal uses:	Young leaves are used as vegetable and considered effective as diuretic, antiscorbutic, stimulant and stomachic. Seeds are vesicant, acrid and used as mustard, to get oil which is useful while its cakes are used as fodder to increase milk yield in cattle. Flowers are used as vegetables to make dish Saag green dish.	
Food popular uses:	Cooked as vegetable	
Role as food medicine:	**	
Scientific name:	<i>Ficus carica</i> L.	Family: Moraceae
Wild (W) or cultivated (C) and Field number:	W. ISL: 44.	Local name: Anjir/Bakwari
Plant part used:	Fruit and Juice.	
Medicinal uses:	The juice of fruit is used to remove warts. Its fruit is nutritive, aperients, demulcent and emollient.	
Food popular uses:	Its fruit is eaten.	
Role as food medicine:	*	
Scientific name:	<i>Foeniculum vulgare</i> Mill.	Family: Umbelliferae
Wild (W) or cultivated (C) and Field number:	C. ISL: 122.	Local name: Saunf
Plant part used:	Whole plant.	
Medicinal uses:	Seeds are stomachic, carminative, stimulant and emmenagogue. Leaves are used as diuretic. Roots are purgative and seeds oil is used as vermicide in babies.	
Food popular uses:	It is used as spices in many dishes.	
Role as food medicine:	**	
Scientific name:	<i>Hordeum vulgare</i> L.	Family: Poaceae
Wild (W) or cultivated (C) and field number:	C. ISL: 66.	Local name: Jao
Plant part used:	Fruits	
Medicinal uses:	It is frequently used as anti-diarrhoeic and tonic for body vigour.	
Food popular uses:	It is used as a type of coffee in villager's daily life.	
Role as food medicine:	*	
Scientific name:	<i>Hyoscyamus niger</i> L.	Family: Solanaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 16.	Local name: Ajwain Kharasani
Plant part used:	Leaves and seeds	
Medicinal uses:	The leaves are narcotic, sedative, anodyne and antiseptic. Its seeds are used to reduce stomach pain, flatulence and indigestion of proteinaceous food. It is commonly used as herbal household tonic powder to cure cough and asthma in children and old people.	
Food popular uses:	It is used as condiment. Its seeds are crushed and a soup dish is prepared and pregnant women before and after delivery take it to relieve delivery pain and as emmenagogue.	
Role as food medicine:	**	
Scientific name:	<i>Indigofera tinctoria</i> (L.f) Retz.	Family: Papilionaceae
Wild (W) or cultivated (C) and Field number:	W. ISL: 20.	Local name: Torki
Plant part used:	Whole plant	
Medicinal uses:	Plant decoction is used in febrile eruptions and amenorrhoea.	
Food popular uses:	Cooked as vegetable	
Role as food medicine:	*	
Scientific name:	<i>Lagenaria siceraria</i> (Molina) Standl.	Family: Cucurbitaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 166.	Local name: Kaddu
Plant part used:	Leaves and pulp.	
Medicinal uses:	Decoction of leaves mixed with sugar is given in jaundice as a tonic. Its pulp is emetic and purgative. Its pulp is also used in sole of shoes in case of burning of feet.	
Food popular uses:	Cooked as vegetable	
Role as food medicine:	**	
Scientific name:	<i>Lens culinaris</i> Medic	Family: Papilionaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 73.	Local name: Masur
Plant part used:	Seeds	
Medicinal uses:	Seeds are laxative and mucilaginous; used in constipation and other intestinal affections. Paste is used to clean foul ulcer.	
Food popular uses:	Cooked as dish.	
Role as food medicine:	*	
Scientific name:	<i>Linum usitatissimum</i> L.	Family: Linaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 153.	Local name: Alsi
Plant part used:	Seeds	
Medicinal uses:	Its seeds are soaked in water and taken to cure cold and sore throat.	
Role as food medicine:	No	
Scientific name:	<i>Lycopersicon esculentum</i> Mill	Family: Solanaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 179.	Local name: Tomatar
Plant part used:	Fruit	
Medicinal uses:	Fruit is used as nutritive and vegetable. Some times it is eaten as fruit and salad with green leaves.	
Food popular uses:	Cooked as vegetable and also used as salad.	
Role as food medicine:	**	



Table 1: Continued

Scientific name:	<i>Malva parviflora</i> L.	Family: Malvaceae
Wild (W) or cultivated (C) and Field number:	W. ISL: 213.	Local name: Sonchal
Plant part used:	Leaves and seeds	
Medicinal uses:	Its leaves are used as emollient. Seeds are demulcent and used as decoction in cough and it is also effective herbal medicine to treat bladder ulcers.	
Food popular uses:	Cooked as vegetable.	
Role as food medicine:	**	
Scientific name:	<i>Mangifera indica</i> L.	Family: Anacardiaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 61.	Local name: Amm
Plant part used:	Whole plant.	
Medicinal uses:	Its seeds dried and powdered are used in asthma; kernel is antihelmintic, astringent, also used in haemorrhage and diarrhoea. Juice of inflorescence is poured into nasal cavity to stop nasal bleeding. Leaves are burnt and pasted with oil on scorpion sting part of body for pain reliever. Unripe fruit is used in ophthalmia and eruption, while ripe fruit is laxative, astringent, diuretic and useful in haemorrhage of uterus. Its bark is useful in uterine haemorrhage, haemoptysis, maelena and other discharges.	
Food popular uses:	Used as fruit and its unripe fruit is used to make dishes, Pickles and to make chattanies.	
Role as food medicine:	***	
Scientific name:	<i>Mentha longifolia</i> (L.) Huds.	Family: Labiatae
Wild (W) or cultivated (C) and Field number:	W. ISL: 94.	Local name: Pudina
Plant part used:	Leaves and flowers	
Medicinal uses:	The infusion of leaves is taken as cooling medicine. Dried leaves and flower tops are carminative and also taken in form of tea to cure flu and seasonal cold.	
Food popular uses:	It is used to make chattanies and also used to make tea.	
Role as food medicine:	**	
Scientific name:	<i>Mentha spicata</i> L.	Family: Labiatae
Wild (W) or cultivated (C) and Field number:	W. ISL: 111.	Local name: Parhi podina
Plant part used:	Whole plant.	
Medicinal uses:	The herb is considered as stimulant, antiseptic and carminative. Leaves are used in fever and bronchitis; decoction is given in aphthae as a lotion.	
Food popular uses:	Used as condiment and to make chattanies.	
Role as food medicine:	**	
Scientific name:	<i>Momordica balsamina</i> L.	Family: Cucurbitaceae
Wild (W) or cultivated (C) and Field number:	W. ISL: 90.	Local name: Jangli karela
Plant part used:	Fruit.	
Medicinal uses:	Fruit is sold as drug and used in healing of wounds.	
Food popular uses:	Cooked as vegetable	
Role as food medicine:	*	
Scientific name:	<i>Momordica charantia</i> L.	Family: Cucurbitaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 88.	Local name: Karela
Plant part used:	Whole plant.	
Medicinal Uses:	The fruit is useful in stomachic and its juice is used in snakebite. Fruit and leaves are antihelmintic; used in jaundice, leprosy and as vermicide. Juice of leaves is purgative and emetic. Root is astringent, useful in haemorrhoids.	
Food popular uses:	Cooked as vegetable	
Role as food medicine:	**	
Scientific name:	<i>Morus alba</i> L.	Family: Moraceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 155.	Local name: Safed toot
Plant part used:	Fruit and bark.	
Medicinal uses:	Fruit is refrigerant and used as a remedy for soar throat, dyspepsia and melancholia. The bark is burnt and mixed with honey and used as purgative and antihelmintic in folklore tonics.	
Food popular uses:	Its fruit is eaten	
Role as food medicine:	*	
Scientific name:	<i>Morus indica</i> L.	Family: Moraceae
Wild (W) or cultivated (C) and Field number:	W. ISL: 123.	Local name: Kala toot
Plant part used:	Fruit, bark, leaves and root.	
Medicinal Uses:	The bark dry powder mixed with Ajwain used as antihelmintic and purgative. Its leaves decoction is used as gargle in the inflammation of vocal cords. Root ash is astringent and antihelmintic. Fruit is laxative, cooling and aromatic, reduces fever.	
Food popular uses:	Its fruit is eaten.	
Role as food medicine:	**	
Scientific name:	<i>Foeniculum vulgare</i> L.	Family: Labiatae
Wild (W) or cultivated (C) and Field Number:	W. ISL: 167.	Local name: Baburi
Plant part used:	Whole plant	
Medicinal uses:	Leaf juice with honey is taken to cure spasmodic laryngitis. Flowers are stimulant, carminative and diuretic. Root's decoction (sharbat) is used in bowel complaints of children. Seeds are mucilaginous and are used in chronic diarrhoea, dysentery and gonorrhoea in form of infusions.	
Food popular uses:	Used as making Sharbat for drinking.	
Role as food medicine:	**	
Scientific name:	<i>Olea ferruginea</i> Royle	Family: Oleaceae
Wild (W) or cultivated (C) and Field number:	W. ISL: 189.	Local name: Kahoo
Plant part used:	Leaves, gum and bark.	
Medicinal uses:	Leaves are used as tonic to cure gonorrhoea. Its leaves are also used for making tea, which is alternative of black tea used by local inhabitants; this tea is considered to be the best in treatment of flu and cough. Leaves and bark extract is astringent; used in fever and debility. Oil from fruit is rubifacient. Gum mixed with antimony is used for cataract cure-ness.	

Table 1: Continued

Food popular uses:	It leaves are used to make tea.	
Role as food medicine:	**	
Scientific name:	<i>Oryza sativa</i> L.	Family: Poaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 176.	Local name: Chawal
Plant part used:	Grain	
Medicinal uses:	Rice decoction (water in which rice are boiled) is demulcent, refrigerant, soothing. It is tonic as nourishing drinks in febrile diseases and inflammatory states of intestine. Rice gruel is used in diarrhoea, dysentery, bowel complaints and in digestions.	
Food popular uses:	Cooked as food	
Role as food medicine:	**	
Scientific name:	<i>Oxalis corniculata</i> L.	Family: Oxalidaceae
Wild (W) or cultivated (C) and Field number:	W. ISL: 178.	Local name: Khati booti
Plant part used:	Whole plant	
Medicinal uses:	The herb extract is used to cure scurvy. Its leaves are antiscorbutic, refrigerant, cooling and stomachic.	
Food popular uses:	Cooked as vegetable	
Role as food medicine:	*	
Scientific name:	<i>Papaver somniferum</i> L.	Family: Papaveraceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 123.	Local name: Khas khaas
Plant part used:	Capsules, leaves, juice and seeds	
Medicinal uses:	Milky juice obtained from plant is opium that is narcotic. Its leaves are used as vegetable. Its ground seeds are mixed with Badam and milk as tonic for body strength and vigour.	
Food popular uses:	Cooked as vegetable and seeds used to make Badam sharbat with milk.	
Role as food medicine:	**	
Scientific name:	<i>Pennisetum americanum</i> (L.) Schum	Family: Poaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 205.	Local name: Bajara
Plant part used:	Seeds	
Medicinal uses:	Plant is considered as tonic; its powdered seeds with Khas khaas are good for heart problems and it is good appetizer too.	
Food popular uses:	It is used as food, making bread and biscuits.	
Role as food medicine:	**	
Scientific name:	<i>Phaseolus lanatus</i> L.	Family: Papilionaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 189.	Local name: Lobia
Plant part used:	Seeds	
Medicinal uses:	Seeds are astringent and used in fever as diet.	
Food popular uses:	Cooked as a dish; alternative protein source.	
Role as food medicine:	*	
Scientific name:	<i>Phaseolus vulgaris</i> L.	Family: Papilionaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 107.	Local name: Daal maan
Plant part used:	Seeds	
Medicinal uses:	The pods and seeds are used as emollient.	
Food popular uses:	Cooked as pulses, a good source of protein.	
Role as food medicine:	*	
Scientific name:	<i>Phoenix sylvestris</i> Roxb.	Family: Palmae
Wild (W) or cultivated (C) and Field number:	W. ISL: 109.	Local name: Khagoor
Plant part used:	Fruit, root and juice of tree.	
Medicinal uses:	Root ash is used in toothache. Fruit is tonic, cooling and laxative. Juice of bark is used as cooling drink. Its Kernel powdered with root of <i>Achyranthus aspera</i> and beetle leaves is common tonic for aging.	
Food popular uses:	Fruit is eaten.	
Role as food medicine:	*	
Scientific name:	<i>Phyllanthus emblica</i> L.	Family: Euphorbiaceae
Wild (W) or cultivated (C) and Field number:	W. ISL: 156.	Local name: Amla
Plant part used:	Fruit, flower and seeds.	
Medicinal uses:	Its fruit is cooling, diuretic, laxative and aperient. Dried fruit is used to treat diarrhoea, dysentery, jaundice, dyspepsia and anaemia. Exudates from fruit are applied on eye inflammation. Seeds are used as in asthma, bronchitis and biliousness. Flowers are refrigerant, cooling and aperient. Fruit is good source of vitamin C.	
Food popular uses:	Cooked as dish, used to make marrabba amala, also used to make pickles of Amla.	
Role as food medicine:	**	
Scientific name:	<i>Pinus roxburgii</i> Sargent.	Family: Pinaceae
Wild (W) or cultivated (C) and Field number:	W. ISL: 188.	Local name: Chir
Plant part used:	Resin, seeds, leaves and wood.	
Medicinal Uses:	Resin with gor (raw dried juice of sugarcane) is used as stomachic and effective remedy for gonorrhoea. Resin with egg is also applied as a plaster to buboes and abscesses for suppuration. Wood ash mixed with honey is diaphoretic, stimulant and used in cough and ulceration. Seeds are eaten as chalgoza Tilphoon. Its leaves extract is considered as blood purifier and curative of goiter.	
Food popular uses:	Its seeds are eaten as dry fruit.	
Role as food medicine:	*	
Scientific name:	<i>Pisum sativum</i> L.	Family: Papilionaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 231.	Local name: Matar
Plant part used:	Seeds	
Medicinal uses:	Seed flour is used as emollient, resolvent in sprain and also applied as cataplasm. Seed oil has antisex hormonal effect, produces sterility and antagonizes effects of male sex hormones; local people use it as birth control phytonim.	
Food popular use:	It is cooked as dish.	

Table 1: Continued

Role as food medicine: **		
Scientific name:	<i>Portulaca oleracea</i> L.	Family: Portulacaceae
Wild (W) or cultivated (C) and Field number:	W. ISL: 141.	Local name: Kulfa
Plant part used:	Whole plant.	
Medicinal uses:	It is used as food medicine in diseases of liver, kidney and lungs. Paste of leaves is externally applied on burns, scalds and other skin diseases. Seeds are demulcent, astringent and vermifuge. Juice of stem is applied against prickly heat pimples.	
Food popular uses:	Cooked as vegetable	
Role as food medicine: ***		
Scientific name:	<i>Prunus amygdalus</i> Bell. Batsch.	Family: Rosaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 164.	Local name: Badam
Plant part used:	Seeds	
Medicinal uses:	Seeds are nervine tonic, stimulant and demulcent. Seed mixed with Khas khaas and milk is used as sex stimulant and body strengthening.	
Food popular uses:	Used as tonic of body vigour and as Sharbat-e- Badam as common drink in summer.	
Role as food medicine: **		
Scientific name:	<i>Prunus communis</i> Huds	Family: Rosaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 80.	Local name: Aloobokhara
Plant part used:	Fruit	
Medicinal uses:	Fruit is laxative and refrigerant; it is used as admixture with Paneer dodi in treatment of leucorrhoea, irregular menstruation and debility following miscarriage.	
Food popular uses:	Eaten as fruit.	
Role as food medicine: ***		
Scientific name:	<i>Prunus persica</i> (L.) Batsch	Family: Rosaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 77.	Local name: Aru
Plant part used:	Flower and Fruit.	
Medicinal uses:	Flower's decoction is taken as purgative and diuretic. Fruit is curative in stomachic, antiscorbutic and useful in ascaricide.	
Food popular uses:	Eaten and fruit.	
Role as food medicine: **		
Scientific name:	<i>Psidium guajava</i> L.	Family: Myrtaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 31.	Local name: Amrood
Plant part used:	Leaves and fruit.	
Medicinal uses:	Fruit is laxative. Leaves are used as astringent for bowels. Leaves infusion with fruit of Jaman is used as herbal folklore recepies for diabetes.	
Food popular uses:	Eaten as fruit.	
Role as food medicine: **		
Scientific name:	<i>Punica granatum</i> L.	Family: Puniceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 55.	Local name: Anar
Plant part used:	Bark, seeds and fruit.	
Medicinal uses:	Its crushed seeds are stomachic. Pulp with honey and milk is used as cardiac tonic. Fresh juice is cooling and refrigerant. Root and stem bark decoction is used as is astringent and anthelmintic to repel tap worm. Dried scales of fruit are powdered and taken with honey as tonic for flu, cough and particularly useful for hooping cough.	
Food popular uses:	Eaten as fruit and to make Sharbat-e-Anar and its seeds are used in making Pokaras tasty.	
Role as food medicine: **		
Scientific name:	<i>Pyrus communis</i> L.	Family: Rosaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 147.	Local name: Nashpati
Plant part used:	Fruit	
Medicinal uses:	Its fruit is sedative, febrifuge and astringent.	
Food popular uses:	Eaten as fruit.	
Role as food medicine: *		
Scientific name:	<i>Raphanus sativus</i> L.	Family: Brassicaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 211.	Local name: Mooli
Plant part used:	Leaves, seeds and root.	
Medicinal uses:	The leaves are used as diuretic, anti-scorbutic and laxative. Leaf juice is also given in dysuria, calculus and strangury. Raw root is given in urinary problems, syphilitic diseases, piles and stomachache. Its seeds are peptic, expectorant, caminative, emmengogue and stimulant.	
Food popular uses:	Cooked as vegetable and eaten as salad.	
Role as food medicine: ***		
Scientific name:	<i>Rosa indica</i> L.	Family: Rosaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 157.	Local name: Gulab
Plant part used:	Fruit, Leaves	
Medicinal uses:	Its fruit is applied to fuel ulcers, used on wounds, sprains and injuries. Its leaves are used to make gulkand and Araq-e-Gulab which is used in treatment of flu and cough and in many other diseases. Its extract of flowers is effective digestive tonic for infants.	
Food popular uses:	Taken as gulkand and Araq-e-Gulab	
Role as food medicine: **		
Scientific name:	<i>Salvia officinalis</i> L.	Family: Labiateae
Wild (W) or Cultivated (C) and field number:	W. ISL: 88.	Local name: Salvia
Plant part used:	Leaves	
Medicinal uses:	Its leaves are anti-inflammatory, tooth antiseptic, digestive and also used as condiments.	
Role as food medicine: **		

Table 1: Continued

Scientific name:	<i>Sesamum indica</i> L.	Family: Pedaliaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 145.	Local name: Tili
Plant part used:	Leaf and seed.	
Medicinal uses:	Leaves are used as demulcent in infantile cholera, diarrhoea and dysentery, as infusion. Seeds are tonic, diuretic, lactagogue, emollient and emmenagogue and useful in piles and ulcers. Seed's oil is used in urinary complaints and in dysentery with combination of other medicines. It is used in Punjoori to promote sexual vigour and it act as anti-aging tonic.	
Food popular uses:	It is eaten with biscuits, rewari and punjuri.	
Role as food medicine:	**	
Scientific name:	<i>Sisymbrium irio</i> L.	Family: Brassicaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 179.	Local name: khub kalan
Plant part used:	Leaves and seeds.	
Medicinal uses:	The leaves are given in form of infusion for throat and chest infections. The seeds are restorative, expectorant and stimulant; used in asthma and externally applied as poultice. Its seeds are placed on measles patient's bed provides immediate relief.	
Food popular uses:	Cooked as vegetable as saag and used to get oil, which is used to cook food and make pickles.	
Role as food medicine:	**	
Scientific name:	<i>Solanum melongena</i> L.	Family: Solanaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 186.	Local name: Baigan
Plant part used:	Leaves, fruit and seeds.	
Medicinal uses:	Its leaves are heated and placed on piles and burns. Its leaves are also narcotic. Its fruit is used as vegetable. Its seeds are stimulant.	
Food popular uses:	Cooked as vegetable	
Role as food medicine:	**	
Scientific name:	<i>Solanum miniatum</i> L.	Family: Solanaceae
Wild (W) or cultivated (C) and Field number:	W. ISL: 177.	Local name: Kach mach
Plant part used:	Whole plant.	
Medicinal uses:	Its leaves are used as a poultice over rheumatic, gouty joint and in skin diseases. Berries are recommended in leprosy, heart diseases, piles, gonorrhoea, enlargement of spleen and liver, hydrophobia. Its leaves are also cooked as vegetable.	
Food popular uses:	Cooked as vegetable	
Role as food medicine:	***	
Scientific name:	<i>Solanum tuberosum</i> L.	Family: Solanaceae
Wild (W) or Cultivated (C) and field number:	C. ISL: 105.	Local name: Aloo
Plant part used:	Tubers	
Medicinal uses:	Its slices of tuber are used against burns and skin inflammations.	
Food popular use:	Boiled, roasted, fried, pies and cooked as chips.	
Role as food medicine:	No	
Scientific name:	<i>Solanum surrattense</i> Burm.f.	Family: Solanaceae
Wild (W) or cultivated (C) and Field number:	W. ISL: 207.	Local name: Mokari
Plant part used:	Whole plant.	
Medicinal uses:	The plant is bitter, digestive, alterative, digestive, expectorant, aperients, diuretic and antihelmintic; used in cough, asthma, fever, chest pain. Juice of berry is used in sore throat; leaves are applied locally to relief pain. Its fruit is used to make food dish. Its fruit are used ritual tonic to keep animals safe from bad eye.	
Food popular uses:	Cooked as a dish	
Role as food medicine:	***	
Scientific name:	<i>Sorghum vulgare</i> (L.) Pers.	Family: Poaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 26.	Local name: Jao
Plant part used:	Seeds	
Medicinal uses:	Its seeds are considered to be effective as demulcent, diuretic and aphrodisiac.	
Food popular uses:	Roasted and used to make sharbat for summer season.	
Role as food medicine:	*	
Scientific name:	<i>Spinacea oleracea</i> L.	Family: Chenopodiaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 39.	Local name: Palak
Plant part used:	Whole plant	
Medicinal uses:	The green plant is given for urinary calculi. Leaves are cooling; useful in febrile affections, inflammations of lungs and bowels. Seeds are cooling, laxative, used in breathing complaints, inflammations of liver and in jaundice.	
Food popular uses:	Cooked as vegetable	
Role as food medicine:	***	
Scientific name:	<i>Terminalia bellerica</i> Roxb.	Family: Combretaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 03.	Local name: Bahera
Plant part used:	Fruit and kernel	
Medicinal uses:	Its fruit is tonic, laxative, bitter, antipyretic and astringent. Its admixture with Harir ( <i>Terminalia chebula</i> ) taken with milk good tonic for leprosy, biliousness, diarrhoea, dropsy, piles, dyspepsia and headache. When fruit is half ripe it is purgative and fully ripe stage it is astringent. Its kernel is narcotic. Its bark of fruit is dried and ground and used for digestion of food.	
Food popular uses:	Cooked as a dish by using of its fruit pulp.	
Role as food medicine:	**	
Scientific name:	<i>Terminalia chebula</i> Retz.	Family: Combretaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 108.	Local name: Harir
Plant part used:	Bark and fruit	
Medicinal uses:	Its bark is used as cardio tonic and diuretic. Fruit is alterative, laxative, astringent. Root powder is externally applied to chronic ulcers and wounds. Its powder of fruit is used as gargle in stomatitis, as dentifrice and useful tonic in carious teeth, bleeding gums and ulceration of mouth. It is also used Moraba Harir for patients of heart problems.	

Table 1: Continued

Food popular uses:	Used as Moraba Harir.	
Role as food medicine:	***	
Scientific name:	<i>Trigonella foenum-graceum</i> L.	Family: Papilionaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 53.	Local name: Methi
Plant part used:	Leaves and seeds	
Medicinal uses:	Its seeds are said to be aphrodisiac, carminative and tonic. Its infusion is given in small-pox as cooling drink. Roasted and infused seeds are used for treatment of dysentery. Its leaves are cooked as a vegetable for patient.	
Food popular uses:	Cooked as vegetable	
Role as food medicine:	**	
Scientific name:	<i>Triticum aestivum</i> L.	Family: Poaceae
Wild (W) or Cultivated (C) and field number:	C. ISL: 66.	Local name: Gandam
Plant part used:	Grains	
Medicinal uses:	It is used against sprains mixed with eggs and its flour is used as food.	
Food popular uses:	Home made breads and Halwa	
Role as food medicines:	No	
Scientific name:	<i>Vernonia anthelmintica</i> L.	Family: Asteraceae
Wild (W) or cultivated (C) and Field number:	W. ISL: 112.	Local name: Kali zeri
Plant part used:	Seeds	
Medicinal uses:	Its seeds are tonic, stomachic, diuretic, antihelmintic and used in skin diseases. Its seeds are ground and paste on broken arms or legs for relief of pain.	
Food popular uses:	Used as carminative.	
Role as food medicine:	**	
Scientific name:	<i>Vigna accutifolia</i> (Jacq) Marechal	Family: Papilionaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 144.	Local name: Moth
Plant part used:	Root and seeds	
Medicinal uses:	Its seeds are tonic, used as diet in fever. Its root is narcotic.	
Food popular uses:	Cooked as a dish.	
Role as food medicine:	*	
Scientific name:	<i>Vigna mungo</i> (L.) Hepper	Family: Papilionaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 104.	Local name: Mungo
Plant part used:	Seeds	
Medicinal uses:	Its seeds are astringent, cooling, nutritive, used as diet in fever and said to be it improves eyesight.	
Food popular uses:	Cooked as dish	
Role as food medicine:	**	
Scientific name:	<i>Vigna unguiculata</i> (L.) Walp.	Family: Papilionaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 55.	Local name: Lobia
Plant part used:	Seeds	
Medicinal uses:	Its seeds are antihelmintic and diuretic. It is used as food and considered as strengthening of stomach.	
Food popular uses:	Cooked as dish	
Role as food medicine:	*	
Scientific name:	<i>Viola biflora</i> L.	Family: Violaceae
Wild (W) or cultivated (C) and Field number:	W. ISL: 199.	Local name: Banafasha
Plant part used:	Leaves, fruit and root.	
Medicinal uses:	Its leaves are laxative and emollient. Root is emetic. Flowers are diaphoretic, emollient, antispasmodic and pectoral. Its flowers are used to make Sharbat Banafasha which is used in fever to reduce its heat. Its roots are boiled and used as a liquid for relief of flu, cold and cough. It is also used to make tea.	
Food popular uses:	Used as Sharbat-e-Banafasha and to make tea.	
Role as food medicine:	**	
Scientific name:	<i>Viola kashmiriana</i> W.Bkr.	Family: Violaceae
Wild (W) or cultivated (C) and Field number:	W. ISL: 200.	Local name: Banafasha
Plant part used:	Whole plant	
Medicinal uses:	The bruised herb is used to fowl sours and ulcers. Its flowers are considered as source of blood purifier. It is used to make tea.	
Food popular uses:	Used as to make tea	
Role as food medicine:	*	
Scientific name:	<i>Vitis vinifera</i> L.	Family: Vitaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 148.	Local name: Angoor
Plant part used:	Leaves, fruit and sap of young shoots.	
Medicinal uses:	Its leaves are astringent; used in diarrhoea. Sap of young shoots is used to cure skin diseases. Dried fruits is sweet and stomachic, laxative, demulcent; used in cough, hoarse throat thirst, consumption and in heat of body. Its fruit with milk is used to give sexual vigour.	
Food popular uses:	Eaten as fruit and used as cooking of many sweet dishes for flavour and taste.	
Role as food medicine:	**	
Scientific name:	<i>Withania coagulans</i> Dunal.	Family: Solanaceae
Wild (W) or cultivated (C) and Field number:	W. ISL: 86.	Local name: Panir doddi
Plant part used:	Whole plant.	
Medicinal uses:	Its fruit is demulcent and cooling and given in smallpox.	
Food popular uses:	No	
Role as food medicine:	*	
Scientific name:	<i>Zea mays</i> L.	Family: Poaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 163.	Local name: Maki

Table 1: Continued

Plant part used:	Grains	
Medicinal uses:	Its grains are nutritive, astringent and resolvent; used in relaxed conditions of bowel and as a diet in consumption.	
Food popular uses:	Cooked as bread and its grains are roasted and eaten.	
Role as food medicine:	*	
Scientific name:	<i>Zingiber officinalis</i> Rose.	Family: Zingiberaceae
Wild (W) or cultivated (C) and Field number:	C. ISL: 82.	Local name: Adrak
Plant part used:	Rhizome	
Medicinal uses:	Its rhizome is caminative, condiment, stimulant, sialagogue and flavouring agent; used in colic, dyspepsia, rheumatism, piles, biliousness vomiting, spasm chest troubles, dropsy, tympanites, diarrhoea, dysentery nausea; pulmonary and catarrhal diseases; with honey it is used to cure asthma.	
Food popular uses:	Cooked with dishes for better taste	
Role as food medicine:	**	
Scientific name:	<i>Zizyphus mauritiana</i> Lam.	Family: Rhamnaceae
Wild (W) or cultivated (C) and Field number:	W. ISL: 60.	Local name: Ber
Plant part used:	Leaves, fruit, seeds and Bark.	
Medicinal uses:	Its bark is used in diarrhoea. Leaves are used to plaster in strangury. Fruit is styptic, mucilaginous and pectoral; also useful for purification of blood and it enhances digestion. Powdered root is applied on wounds and ulcers as poultice; decoction of root is useful in fever.	
Food popular uses:	Eaten as fruit.	
Role as food medicine:	**	
Scientific name:	<i>Zizyphus jujuba</i> Mill.	Family: Rhamnaceae
Wild (W) or cultivated (C) and Field number:	W. ISL: 93.	Local name: Mala ber
Plant part used:	Fruit, leaves and bark.	
Medicinal uses:	Chewing of leaves act as appetizer and anaesthetize the taste from 5-20 min. Syrup of dried fruit is used in bronchitis. Dried fruits are supportive, blood purifier, expectorant. Bark is used to clean wound and sore. Gums are used in certain eye affections.	
Food popular uses:	Eaten as fruit.	
Role as food medicine:	**	
Scientific name:	<i>Zizyphus numularia</i> (Burm.f) W. and. A.	Family: Rhamnaceae
Wild (W) or cultivated (C) and Field number:	W. ISL: 65.	Local name: Koken ber
Plant part used:	Leaves and fruit	
Medicinal uses:	Its leaves are applied externally on boils and scabies. Fruit is astringent and cooling; used in bilious affections.	
Food popular uses:	Its fruit is edible.	
Role as food medicine:	*	

W: wild plant; C: cultivated plant; ISL: Islamabad Herbarium of Botany; Role as food medicine: \*, low; \*\*, medium; \*\*\*, high.

***Pisum sativum*:** Its seed's flour is emollient and resolvent in sprain and applied in cataplasm. Seed oil has anti-sex hormonal effect and antagonizes male sex hormone and is being used as birth control folk medicine.

***Raphanus sativus*:** Its leaves juice is effective in dysuria, calculus and strangury. Root is given in urinary and syphilis diseases. Its seeds are peptic and emmenagogue.

***Solanum miniatum*:** Its leaves as poultice are effective in rheumatism and gout joints pain. Its fruit is used a good against leprosy, enlargement of spleen and liver, hydropthobia.

***Malva sylvestris*:** It is used to cure cough and chronic bladder ulcer.

***Terminalia chebula*:** It used to cure chronic ulcers, wounds healer tonic for carious teeth pain and to cure heart problems.

**Medicinal plants as food medicine:** About 85% recorded plants also play a role as food medicine. It was observed for home-made food phytonims have an important medicinal digestive spirits in the traditional culture of the

area. As these plants are common part of daily food phytonims, so their medicinal importance is usually under estimated or ignored. In particular, *Raphanus sativus*, *Corriandrum sativum*, *Allium cepa*, *Terminalia boherica*, *Mentha sativus* and *Ceropegia bulbosa* aerial parts, roots and seeds are normally used as stomachic, digestive and as anti flatulence curatives. Other group of plants, which includes condiments and spices have important medicinal role as food medicines. Many wild and cultivated species are being used as flavouring agents and carminatives in daily dishes. The most commonly used plants are *Daucus carota*, *Capsicum annum*, *Brassica nigra*, *Carum carvi*, *Citrus aurantifolia*, *Foeniculum vulgare*, *Cuminum cyminum* and *Hyoscymus niger*. These are used to flavour and make dish more digestible with high fat or protein contents. Some times these taxa are also separately used as medicinal herbs in form of infusions or decoctions to provide relief by food therapy approach. Some of plants which are usually used as salads or in boiled mixtures; sometimes also in the form of vegetable soups and their food medicinal role is well recognizable in folklore phytonims. There are taken as soups or salads to clean heat of stomach, blood purifier and as liver and intestine cleansing tonic with diuretic or mild laxative properties. The herbs used comprise of *Raphanus sativus*, *Malva*

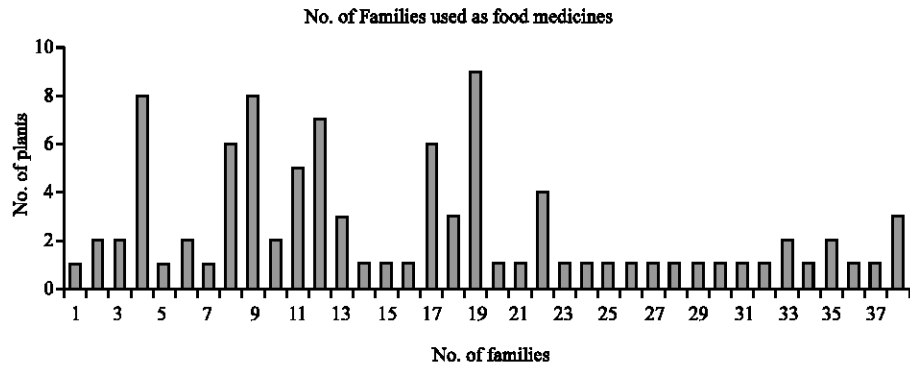


Fig. 1: No. of plants being used as ethnomedicines of each family in Samahni valley

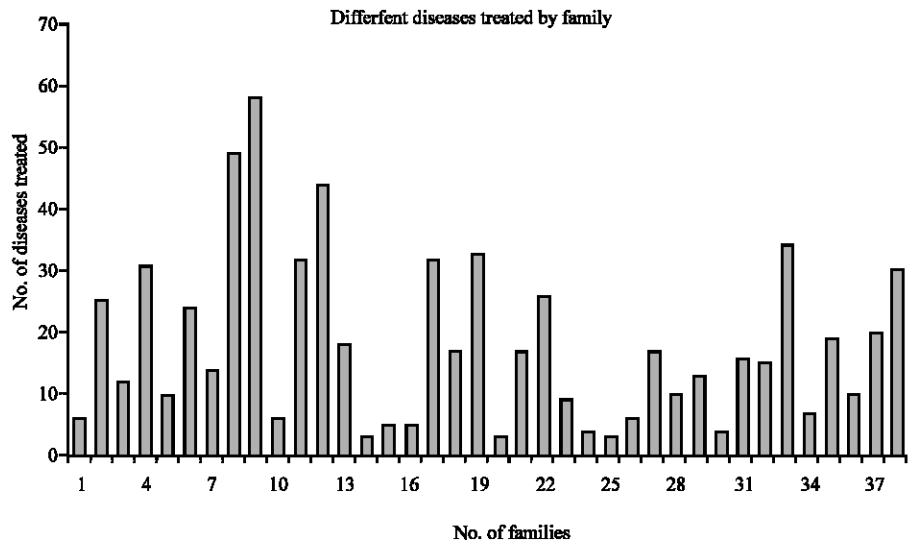


Fig. 2: No. of diseases treated by (different plants) each family

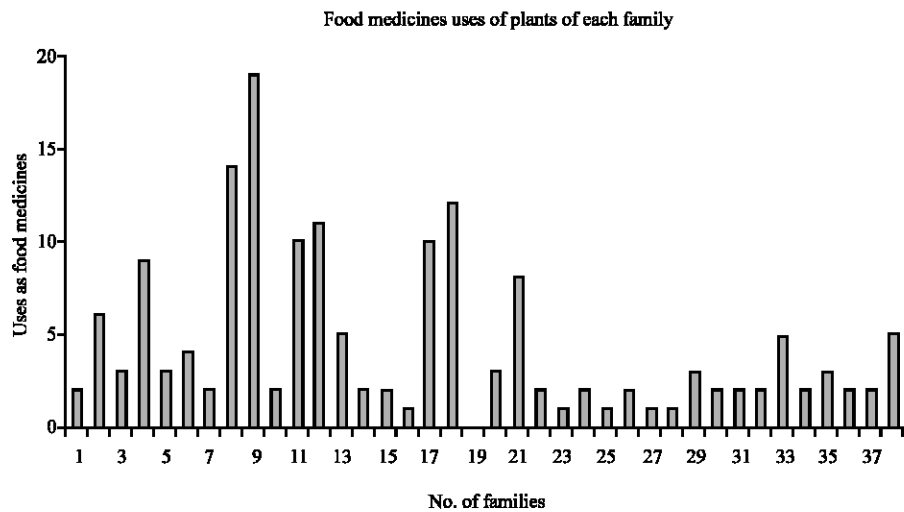


Fig. 3: Family wise use of plants as food medicines

sylvestris, *Foeniculum vulgare*, *Sonchus asper*, *Hyoscyamus niger*, *Portulaca oleraceae*, *Abelmoschus esculentus*, *Amaranthus viridis*, *Daucus carota* and *Hordeum vulgare*. Many ethnomedicinal uses of the surveyed species are not quoted by modern pharmacognosy, phytochemistry and further research is needed in this field. This green food (usually used as salad) and group of herbs used as condiments have the highest informant census values, which confirm their wide, spread popular recognition in communities' daily lives.

To represent the best range of use of ethnomedicines, more attention should be paid in the ethnobotanical survey that it should represent the whole or maximum community of the Samahni valley. Moreover, ethnobotanical surveys about wild species should incorporate very rare and uncommon herbs also with documenting about their medicinal consumption in culture of the area. The evidence about the herbs ingested in traditional diets (food phytonims) play a vital role as modulators in human metabolism has been well discussed in previous research (Johns and Chapman, 1995; Johns 1996). Another interesting perspective of plants use in traditional foods is considered to be healthful and some times as home tonic to cure minor troubles. Perceptions as folklore food medicine are sometimes remarkable, as use of tea of *Viola biflora* is good reliever of seasonal flu, cold, cough and bronchial afflictions. Other sorts of foods, typically prepared as hot snacks are fairly liked by women and children, during little breaks from schools, or even concurrent with other activities.

**Ritual medicinal plants:** Although, major community of the valley believes in religion Islam, yet more or less they believe in some superstitions. Some plants are given sacred rank and visited regularly to cure or avoid some fatal or epidemic diseases. They are also considered to protect the babies, home or any lovely animal from effects of bad eye, or from ghost. This type of medicinal uses (spiritual or psychological treatment) is still alive in the culture of the valley. This traditional superstitious therapy related with some plants is also alive in other developing parts of world and even in some European countries (Coris *et al.*, 1981; Hoefler, 1908; Hansel *et al.*, 1993; Teti, 1995; Hoffmann and Bachtold 1942; Ratsch, 1995). The ritual plants of the valley include a specific use of *Clematis vitalaba*, *Boerhavia diffusa*, *Capsicum sativum* and *Solanum miniatum* to get rid of evil effects of bad eye effects or ghosts. The plants which are reputed to be actively used are mostly wild species; perhaps morphological aspects could have played a role in their identification and uses.

## CONCLUSIONS

From this ethnobotanical and ethnomedicinal survey findings we conclude that about 95 species represent the heritage of the folk food medicine of Samahni valley. This ethnomedicinal survey will initiate incentives for further studies concerning to quantify this data considering all biological and pharmacological parameters to evaluate their drug development potency. A comprehensive ethnomedicinal survey about wild food species in the area is inevitable to record remaining all ethnomedicinal data in the valley. For local communities of Samahni valley, this research would stimulate the implementation of 'recollected' data inside concrete eco-sustainable interdisciplinary projects, involving natural, social, cultural and economic aspects. It will help to preserve biodiversity of the area on one side and on other hand it will motivate the communities to grow these plants massively in their fields that will increase individual's income and also indirectly boost up the economy of the area.

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