

Study on Some Medicinal and Nutritional Plants of Turtuk Valley Ladakh India

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ABSTRACT

In Turtuk valley 50 species of plants were found to be used medicinal and nutritional. The study reveals that the villagers of remote area of Baltistan in ancient time use medicinal plants for the treatment of many diseases. Eg. Joint pain, bone fracture, asthma, blood pressure, diabetes, heart disease, dysentery headaches, toothaches etc. In addition, treatment for their livestock.

Keywords- Turtuk valley, Medicinal and Nutritional Plants, Ladakh.



I. INTRODUCTION

In Turtuk valley, most of medicinal plants are confined to the mountain areas and a large numbers of unregistered practitioners scattered in Turtuk areas of Ladakh utilize more remedies for curing of several diseases in 1900s. Now 21st century majority of population in villages getting health care by allopathic medicine (PHC Turtuk) about 20 % of population especially villages health care by Tabis and dua.

Turtuk valley has been largest production of buckwheat (*Fagopyrum esculentum*) and apricot (*Prunus armeniaca*).

Traditional practices followed by the local communities of Turtuk valley need documentation so, the present study was undertaken to record indigenous knowledge on the plants of Turtuk valley and to encourage their sustainable use and conservation.

II. STUDY AREAS

The Turtuk valley in Ladakh is located at the bank of Shayok River between two mountains. Shayok River from its acute angled bend down to its confluence with Turtuk further towards Khapulu Gilgit Baltistan. The area entirely different valley of Ladakh. There is a great variation in altitude approximately 9000ft above the sea level. The climate condition of the region in winter temperatures goes to below 0 to (minimum-18 degree Celsius) and summer as (35 degree Celsius).

III. MATERIALS AND METHODS

Comprehensive field survey conducted throughout the Turtuk valley 9000ft to 14000ft above sea level Ramdanna from June to August 2019 and 2020. The plants information was collected the interviewing the local peoples. Importance was given to those people who have knowledge about the uses of plants for health care like Hakim and particularly aged people whose knowledge was respected by the local people.



Haji Apo Mohammad
Gochogo pa
Haji Ghulam Hussain
Ashoor
Haji Mohammad Isu pa

Fruits, vegetables, and cereals crops information taken with scientific reference. All the recorded plants have been documented in the paper along with their scientific name, common name, local name, uses Harvesting time and location.



IV. RESULTS AND DISCUSSION

50 species of plants and their families are documented for their uses. The family rosaceae is reported as the largest representative of medicinal plant in the study area. As a result, these species are seen to be threatened in the natural habitat of the study area Solanaceae spp. Is also a threatened Ethnobotanical used plant of Turtuk valley in the present study it is observed that the knowledge of medicinal plants and their usage are confined aged person mostly about 60 -70 year old. The traditional knowledge and the percentage of traditional cure system in Turtuk valley are rapidly decreasing since 1971 before indo – Pak war. However about 20% people depend on Tabis and dua, young generation people depend on allopathic medicine and about less than 10% people depend on ayurvedic medicine.

V. ETHNOBOTANICAL OBSERVATION OF TURTUK VALLEY

Medicinal and Nutritional Plants

1. Fruits Trees (Pomology)
2. Vegetables (Olericulture)
3. Medicinal Flowers
4. Cereals crops and Legumes
5. Medicinal Plants of Mountains and River Area

1. Fruits Trees (Pomology)

1- Common Name: Apricot
Botanical Name: Prunus armeniaca
Local Name: Chuli
Family: Rosaceae

Uses: Fruits are benefits of Anti cancer, heart health, Relive asthma, bone health treatment of anemia, beneficial for eyes health, Good for the skin.

Apricot oil uses good for hair, anti dandruff, control hair loss, Oil Use for cooking purposes. Oil is healthier than others are oils low fatty acid and cholesterol.

Harvesting Time: Last week of July to first week of August

Most Popular Variety: Halman and new castle.



2- Common Name: Apple
Botanical Name: Malus domestica
Local Name: Kushu
Family: Rosaceae
Uses: Weakness, blood tonic, jaundice
Varieties and its Harvesting Time: Ginger Gold August
Gala: First week of September
Jonathan: 20 September
Golden Delicious and Red Delicious: Last week of September
Fuji: First week of October
Rome: After 15 October
Braeburn: Last week of October.



3- Common Name: Plum
Botanical Name: Prunus domestica
Local Name: Gulzalu
Family: Rosaceae
Uses: Lower cholesterol levels, maintain healthy digestion, improve bone health, anti aging, brain health, and protects eyes.
Harvesting Time: First week of August.



4- Common Name: Peach
Botanical Name: Prunus persica
Local Name: Takushu
Family: Rosaceae
Uses: Vitamin c deficiency, improve immune system prevent heart disease, protects against anemia promotes skin health.
Harvesting Time: First week of September.



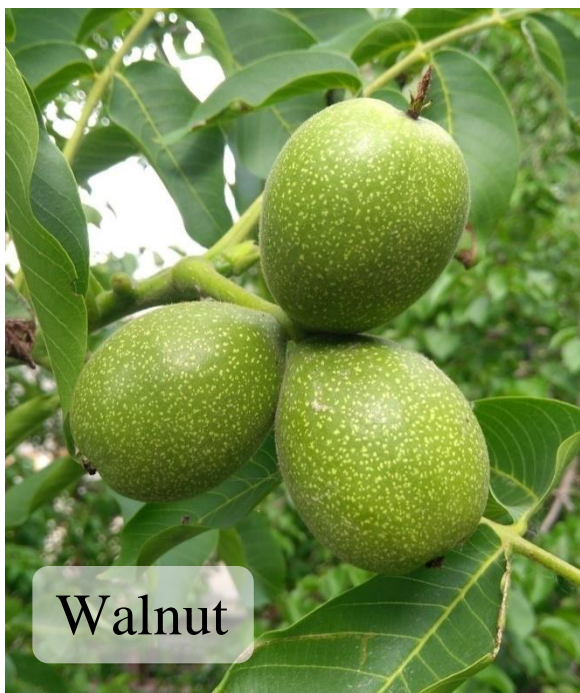
5- Common Name: Cherry
Botanical Name: Prunus avium
Local Name: Shogon
Family: Rosaceae
Uses: Constipation, scurvy, rich source of vitamin c
Harvesting Time: July- August.



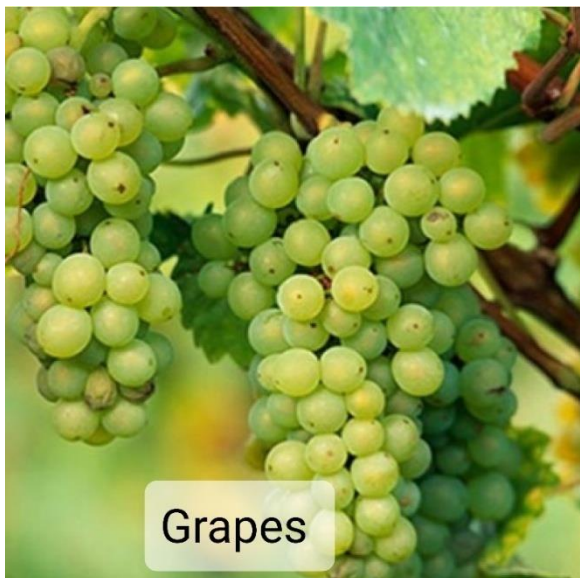
6- Common Name: Mulberry
Botanical Name: Morusnigra
Local Name: Osey
Family: Moraceae
Uses: Bronchitis, blood tonic, body weakness
Harvesting Time: First week of June.



6- Common Name: Walnut
Botanical Name: Juglanragia
Local Name: Starga
Family: Juglandaceae
Uses: Asthma, improve heart function, improve brain, Improve metabolism
Harvesting Time: Last week of September.



7- Common Name: Grapes
Botanical Name: Vitis vinifera
Local Name: Ghunn
Family: Vitaceae
Uses: Blood purifier, cardio tonic, dry fruit is used for fever; juice of fruits is used for hepatitis
Harvesting Time: Last week of September.



8- Common Name: Pear
Botanical Name: Pyrus cumuness
Local Name: Neyoti
Family: Rosaceae
Uses: Body weakness, jaundice, promotes immune system
Harvesting Time: 2nd week of September.



9- Common Name: Russian olive
Botanical Name: Elaeagnus angustifolia
Local Name: Satreen
Family: Elaeagnaceae
Uses: Vitamin c deficiency, eczema treatment by boiling the leaves and flowers. Drinking the boiling water also good for sore throat.

When the Russian olive and leaves are boiled and Consumed as a tea it increases the resistance against winter diseases and protects the body.

Harvesting Time: First week of October.



2. Vegetables (Olericulture)

1-Common Name: Tomato
Botanical Name: Lycopersicon esculentum
Local Name: Paghan
Family: Solanaceae
Uses: Good for diabetes, treatment of overweight, treatment of respiratory disorder, use of Tomato glowing and healthy skin and face
Harvesting Time: First week of August to first week of October.



2-Common Name: Potato
Botanical Name: Solanum tuberosum
Local Name: Aluu
Family: Solanaceae
Uses: weight gain, rich sources of Carbohydrate, body Development during diet
Harvesting Time: First week of October.



4- Common Name: Cauliflower
Botanical Name: Brassica Oleracea var. fulgobi
Local Name: fulgobi
Family: Oleraceae
Uses: Same as Cabbage
Harvesting Time: Same as Cabbage.



3- Common Name: Cabbage
Botanical Name: Brassica compestris
Local Name: Gobi
Family: Oleraceae
Uses: Help improve brain health, help in weight loss
Help with digestion, good for skin
Harvesting Time: Last week of July to October.



5- Common Name: Turnip
Botanical Name: Brassica rapa
Local Name: Mulu
Family: Oleraceae
Uses: Good for heart, improve metabolism, help in digestion
Harvesting Time: First week of last week of September.



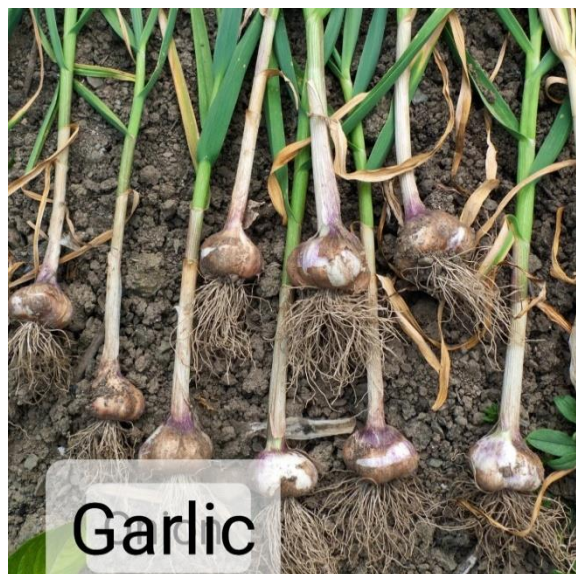
6- Common Name: Carrot
Botanical Name: Daucus carota
Local Name: Walabu
Family: Apiaceae
Uses: Improve eyes sight, rich sources of beta carotene, night blindness
Harvesting time first week of September to first week of October



7- Common Name: Onion
Botanical Name: Allium cepa
Local Name: Tsoong
Family: Alliaceae
Uses: Lower blood sugar levels, eye health, improve Hormones, antidandruff,
Harvesting Time: Last week of September.



8- Common Name: Garlic
Botanical Name: Allium sativum
Local Name: Gogpa
Family: Alliaceae
Uses: Lower blood pressure, the paste made from the bulb is direct application to a painful tooth to relieve toothache and treat gingivitis, hypertension, gastric.
Harvesting Time: Last week of September.



9- Common Name: Chilli
Botanical Name: Capsicum annum
Local Name: Neyrma
Family: Solanaceae
Uses: Temporarily relive chronic pain from several Condition including back pain, jaw pain.
Harvesting Time: Mid July to last week of October.

10- Common Name: Pumpkin
Botanical Name: Cucurbita maxima
Local Name: Kaddu
Family: Cucurbitaceae
Uses: Reduce bad cholesterol, prevent kidney stones, reduce blood pressure, treat insomnia, Boost metabolism improve prostate health.
Harvesting Time: Mid-September to first week of October.



11- Common Name: Bottle gourd
Botanical Name: Lagenaria vulgaris
Local Name: Lauki
Family: Cucurbitaceae

Uses: Weight loos, Hair health, treating diarrhea, Heart health benefits, liver health, treat hypertension, treating piles.

Harvesting Time: Mid-September to first week of October.



3- Medicinal Flowers

1- Common Name: Garden amaranthus
Botanical Name: Amaranthus caudatus
Local Name: Boldum
Family: Amaranthaceae

Uses: Improve heart health, fight cancer, treat diabetes prevent heart disease and stroke Promotes growth of muscle.

Harvesting Time: First week of September.



2- Common Name: Hollyhock
Botanical Name: Alcea rosa
Local Name: Osalo
Family: Malvaceae
Uses: Flowers use as medicinal tea, seed, stem, flower are used as medicine, Hollyhock is used for pain, stomach ulcer, diabetes, wound healing.
Harvesting Time: Last week of August.



3- Common Name: Globe amaranthus
Botanical Name: Gomphrena globosa
Local Name: Gulnakran
Family: Amaranthaceae

Uses: Gomphrena has been used medicinal tea, which is used cough diabetes, to relieve prostate, and reproductive problems.

Harvesting Time: Mid of August.



4- Common Name: Opium
Botanical Name: Papaver somniferum
Local Name: Lalamendok
Family: Papaveraceae

Uses: Flowers use wound, cut, injuries, and many more diseases gum of opium uses for stomach pain etc.

Harvesting Time: First week of August



5- Common Name: Garden geranium
Botanical Name: Pelargonium hortorum
Local Name: Ghunyalmendok
Family: Geraniaceae
Uses: Boost immune system, help to release stress.
Harvesting Time: Last week of October

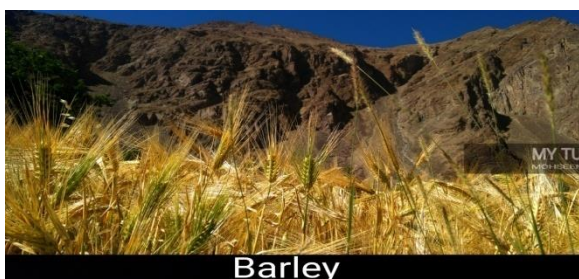


4- Cereals Crops and Legumes

1- Common Name: Wheat
Botanical Name: Triticum aestivum
Local Name: Kroo
Family: Poaceae
Uses: Lower risk of heart disease, Lower risk of stroke, healthy digestion, lower diabetes, Boost immune system.
Harvesting Time: Mid of August.



2- Common Name: Barley
Botanical Name: Hordeum vulgare
Local Name: Nass
Family: Poaceae
Uses: Weight loss, lower cholesterol level, reduce heart risk, help in preventing asthma, prevent cancer, healthy intestines, provides skin care.
Harvesting Time: Mid of July.



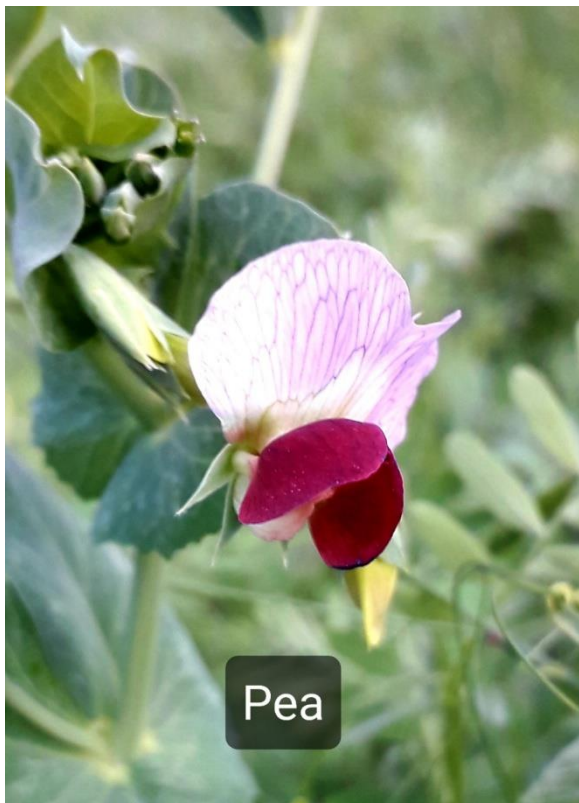
3- Common Name: Buckwheat
Botanical Name: Fagopyrum esculentum
Local Name: Broo (Gheyazz)
Family: Polygonaceae
Uses: Flowers is used for making bread, young leaves are vegetables and as green fodder for livestock. Prevent heart disease, manage diabetes, boost immune system, prevent asthma, great source of protein.
Harvesting Time: First week of October



4- Common Name: Broad bean, faba bean
Botanical Name: Vicia faba
Local Name: Tranma
Family: Fabaceae
Uses: Help metabolism, source of iron, lower blood Pressure, weight management, prevent cancer
Harvesting Time: last week of September.



5- Common Name: Pea
Botanical Name: Pisum sativum
Local Name: Frostan
Uses: Good sources of vitamins C&E strength
Immune system, heart disease.
Harvesting Time: Mid of July.



5- Medicinal Plants of Mountains and River Area

1- Common Name: Juniper
Botanical Name: Juniperus communis
Local Name: Shukpa
Family: Juglandaceae
Uses: Decoction powder of fruit used for
kidney stones and urinary tract infection
Harvesting Time: First week of September
Location: Ramdan nalla



2- Common Name: Somlata
Botanical Name: Ephedra gerardiana
Local Name: Tsepat
Family: Ephedraceae
Uses: Decoction of aerial part are used for cough and
asthma some people are also use for backache
Harvesting Time: Anytime
Location: Mountain area of Turtuk



3- Common Name: Barbery
Botanical Name: Berberis lycium and Berberis ulicina
Local Name: Shinnar
Family: Berberidaceae
Uses: Decoction of leaves, stem, and root bark is
used for jaundice problem and injuries.
Harvesting Time: Mid-August
Location: Ramdannalla



4- Common Name: Seabuck Thron
Botanical Name: Hippophae rhamnoides
Local Name: Tsokqur
Family: Elaeagnaceae
Uses: Fresh and dry fruits used for stomach problems
anticancer, immune system boost, rich sources Vitamin
C.
Harvesting Time: Starting mid-August
Location: Bank of shayok river



5- Common Name: Rose
Botanical Name: Rosa webbiana
Local Name: Siah
Family: Rosaceae
Uses: Decoction Root bark, Fruits hypertension, cold and flu.
Harvesting Time: Mid of August
Location: Ramdannalla



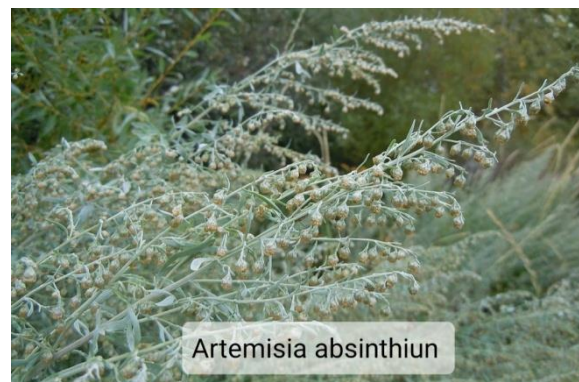
6- Common Name: Rose
Botanical Name: Rosa indica and Rosa Chines
Local Name: Gulab
Family: Rosaceae
Uses: Decoction of flowers fever and abdominal pain
Harvesting Time: Last week of August
Location: Turtuk village



7- Common Name: Sage brushes
Botanical Name: Artemisia maritima
Local Name: Burtsey
Family: Compositae
Uses: Aerial parts are use for diabetes, fever, round Worm and stomach problem.
Harvesting Time: Last week of August
Location: Ramdannalla and Mountain of Turtuk

8- Common Name: Wormwood plant
Botanical Name: Artemisia absinthium
Local Name: Khampa
Family: Compositae
Uses: Leaves pastes applied to treat wound on the leg of Donkey, Cow, Yak etc.
Harvesting Time: August to September

Location: Turtuk village



9- Common Name: Rhubarb
Botanical Name: Rheum spiciforme
Local Name: Khakhul
Family: Polygonaceae
Uses: Root powder is used for stomach disorder, And root paste applied external use for swelling and healing of wound.
Harvesting Time: Last week of July
Location: Ramdannalla, and Mountain of Turtuk.



10- Common Name: Delphinium
Botanical Name: Delphinium brunonianum
Local Name: Makhoting
Family: Ranunculaceae
Uses: Decoction of flowers is use for cough, chest problem throat problems and pile.
Harvesting Time: Last week of July to Mid-August
Location: Ramdan nalla



11- Common Name: Acantholimon
Botanical Name: Acantholimon lycopodioides
Local Name: Longze
Family: Plumbaginaceae
Uses: Leaf is useful for cardio disorder
Harvesting Time: Last week of July to mid-August
Location: Ramdannalla and Mountain of Turtuk



12- Common Name: Aconite
Botanical Name: Aconitum heterophyllum
Local Name: Buunga
Family: Ranunculaceae
Uses: Root is use for cough, high fever and stomach problem and toothache.
Harvesting Time: First week of September
Location: Ramdan nalla

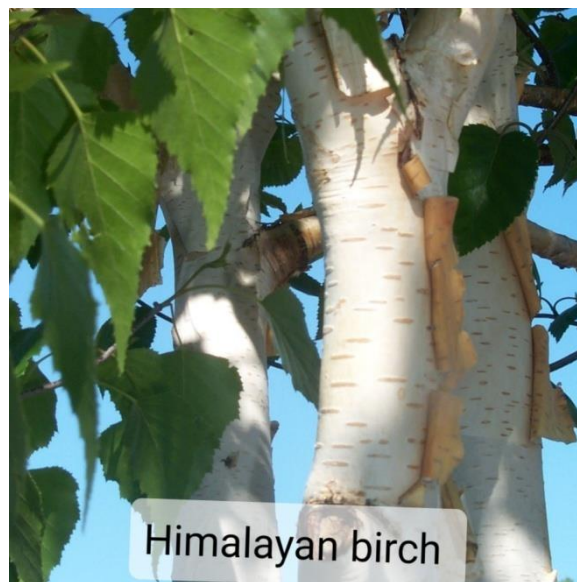


13- Common Name: Stinging nettle
Botanical Name: Urticadioica
Local Name: zaatsoth
Family: Urticaceae
Uses: Whole plants use as vegetable roots of plants are more effective for Joint pain in wintertime root Decoction for cold cough and heat body temperature leaves relieve fatigue, anemia and stimulate blood circulation

Harvesting Time: First week of August
Location: Ramdan nalla

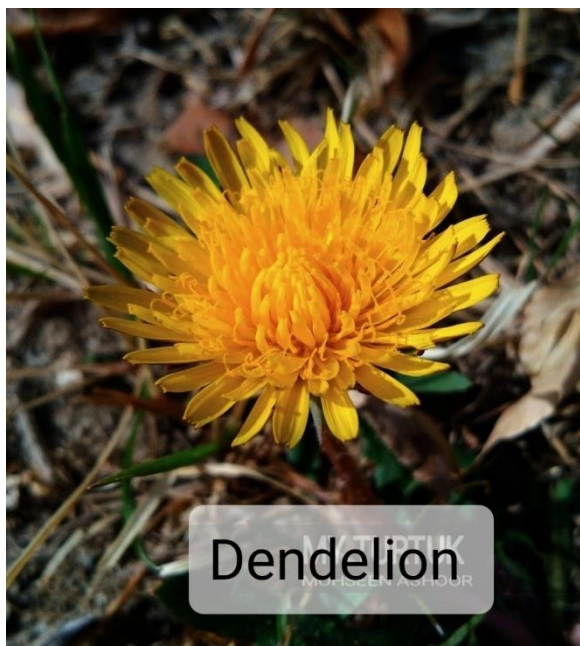


14- Common Name: Himalayan birch
Botanical Name: Betula Utilis
Local Name: Staqpa
Family: Betulaceae
Uses: The smolder of bark paper is applied skin problem particularly wart and skin allergies.
Harvesting Time: Anytime time
Location: Ramdan nalla



15- Common Name: Dandelion
Botanical Name: Taraxacum officinale
Local Name: Basanda
Family: Asteracea
Uses: Youn leaf raw in salad, help digestion , flower has antioxidant properties dandelion tea fight against urinary tract infection, balance blood sugar.

Harvesting Time: First week of June to August
Location: Turtuk village



16- Common Name: Asian mint
Botanical Name: *Mentha longifolia*
Local Name: Foling
Family: Lamiaceae
Uses: The leaves that are used usually make tea that is good for cough, fever, asthma, stomach problem, headaches, good digestion.
Harvesting Time: First week of June to first week of October
Location: Turtuk village and Ramdannalla



17- Common Name: Mountain sorrel
Botanica Name: *Oxyria digyna*
Local Name: Darbamendok
Family: Polygonaceae
Uses: Rich sources of vitamin C cure of scurvy leaves can be salad Immune system booster.
Harvesting Time: First week of July to mid-August
Location: Turtuk village and Ramdannalla.



18- Common Name: Caraway, Wild zeera
Botanical Name: *Carumcarvi*
Local Name: Pang osu
Family: Umbelliferae
Uses: Seed are used for spices and used for cold, fever, abdominal pain, flue and asthma.
Harvesting Time: Month of June and July
Location: Turtuk village



19- Common Name: Kabra
Botanical Name: Capparisipnosa
Local Name: Crapa
Family: Capparidaceae
Uses: Decoction of Bud , Fruits, and leaves used for Cough, flue and winter diseases rich sources of vitamin C
Harvesting Time: Month of July and August
Location: Turtuk village.



20- Common Name: Allium, wild onion
Botanical Name: Allium Przewalskianum
Local Name: Foron
Family: Alliaceae
Uses: Abdominal pain, dysentery, stomachache
Harvesting Time: Mid July
Location: Ramdan nalla.



VI. CONCLUSION

The plants resources in Turtuk area are used to treat different diseases of human and livestock. Rosaceae Family is the high ranked families having most medicinal plants as compared to others. Hippophae rhamnoides and Mentha longifolia are the most

popular high ranked medicinal Plant species among the people in the study area. Medicinal plants are severely under pressure of over grazing, cutting, and climate change impact. Study of medicinal and nutritional plants of Turtuk is to promote knowledge to next generation with the integration of folk medicinal and nutritional knowledge with modern health care.

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