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# ETHNOMEDICINAL PLANTS

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PESHAWAR  
2020**

## **Preface**

The History of herbal medicines is as old as human civilization. For the sustenance and survival, man has to depend on nature. People used medicinal herbs to keep themselves healthy. Nature, by its very design, provides a remedy for nearly any disease that may afflict a human being. In the past, almost all the medicine was from the plants, the plants being man's only chemist for ages. Since the beginning of humankind people have relied primarily on plants for nourishment. Through trial and error they discovered that some plants are good for food, some are poisonous and some produce bodily changes such as increased perspiration, bowel movement, urination, relief of pain, hallucination, and healing. Over the millennia these observations were passed orally from generation to generation, with each generation adding to and refining the body of knowledge. Every culture of the world over has in this manner developed a body of herbal knowledge as a part of its tradition. The understanding of the use of medicinal plants for remedies is accumulated into a traditional knowledge of health care.

The World Health Organization estimated that 80% of the people in developing countries of the world rely on traditional medicine for their primary health care needs, and about 85% of traditional medicine involves the use of plant extracts. In Pakistan 1200-1400 almost constituting 12% of the identified species are used by traditional healers.

Traditional knowledge on medicinal plants is becoming more popular in all over the world. It provides remedy for all diseases that may afflict human being. Through this booklet valuable information is provided on medicinal plants for treating common ailments by the local people and the traditional healers who gained such knowledge through experience from generation to generation in the form of folk medicine. This booklet is prepared under the ADP funded Project of Pakistan Forest Institute (PFI) Titled “Mapping, Digitization, Value Addition and Marketing of NTFP in Collaboration with NTFP Directorate Forest Department”. Information gathered through field visits, Focus Group discussions (FGDs) and meetings with local communities. In this manuscript I have described botanical name, local name, habit, part of the plant used, flowering season and local uses of Fifty (50) medicinal plants of various ecological regions of Khyber Pakhtunkhwa

Any suggestions are welcome for improvement of this manuscript.

**Rashid Hussain**

## **Acknowledgments**

I am grateful to all those, who have offered assistance, encouragement, cooperation during the publication of this booklet / report. I am highly indebted to Dr. Ghulam Ali Bajwa, Additional Director General, Pakistan Forest Institute (PFI), Peshawar and Chaudry Muhammad Muslim Director, Biodiversity (PFI), for their help and support in the preparation of this booklet. I am also grateful to Mr. Moin-Ud-Din, Assistant Director NTFP, Merged Areas, Mr. Noor Rahman, Assistant Director NTFP, Swat, Mr. Osaid Ullah Assistant Director NTFP, Lakki Marwat and Mr. Siddique Ullah NTFP Inspector for their help in preparing this booklet.

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## Introduction

Ethno medicine is an unofficial health-related practice that has traditionally existed, and is learned informally by word of mouth, through observation and demonstration. Ethno botany focuses on the knowledge of medicinal plants that people have developed over generations; this knowledge is generally held and used only within a limited circle of people such as within specific indigenous or rural communities. Various types of traditional medicine such as herbs, trees or plant roots, fruits, resins and other plant parts are used for treatments of any illness that may inflict human being. Traditional healing methods are still being used today in every culture. About 25% of modern medicines are descended from plants first used traditionally. Ethno botany is now gaining more and more popularity and acceptance throughout the world. The World Health Organization estimated that as many as 80% of the world's population depend on plants for their primary healthcare.

Out of an estimated 6000 higher plant species occurring in Pakistan, about 1200-1400 species are used by traditional healers. Several diseases like cancer, AIDS, rheumatoid arthritis, hepatitis and infectious diseases still lack satisfactory solution. Many commercially proven drugs used in modern medicine were initially used in crude form in traditional or folk healing practices. Search for new drugs must be continued relentlessly and hopefully medicinal plants will continue to provide new and important drugs for the alleviation of human sufferings.

Medicinal plants are excellent chemical factories capable of synthesizing unlimited numbers of highly complex and unusual chemical substances certainly more efficient than our modern laboratories in many respects. Plants cannot run away from predators, and so they have both mechanical defenses, such as thorns and chemical defenses to avoid being eaten. In nature, of course, these chemicals are intended to cause sickness and would-be predators, but in small doses or when altered through appropriate chemical procedures, the same molecules can have therapeutic effects. The defense of plant to fight against various stresses is by a way of synthesis and storage of some substances, which we call it as toxic principles or medicine.

Ethno medicinal plants are still used by all kinds of people to find cure for those diseases where modern synthetic medicines have failed. In ancient times, ethno medicinal practice was mixed with magic and superstition. Today many traditionally used herbs have been put to the scientific test and may have proven to possess remarkable curative powers. Ethno medicinal plants are often proving to be effective and safe alternatives to dangerous and costly drugs. The popularity of ethno medicinal plants all over the world in recent years is a significant contribution of ethno medicine. This booklet provides valuable information on ethno medicine plants which are used for the treatment of various types of diseases by the local population.

In this manuscript Ethno Medicinal Plants have recorded through extensive visits, Focus Group Discussions (FGDs) and meetings with the local community of Hazara, Malakand and Central Southern Forest Regions, in order to gather the local knowledge and preserved the same for future generation.

**DESCRIPTION OF MEDICINAL AND AROMATIC PLANTS OF HAZARA FOREST REGION**

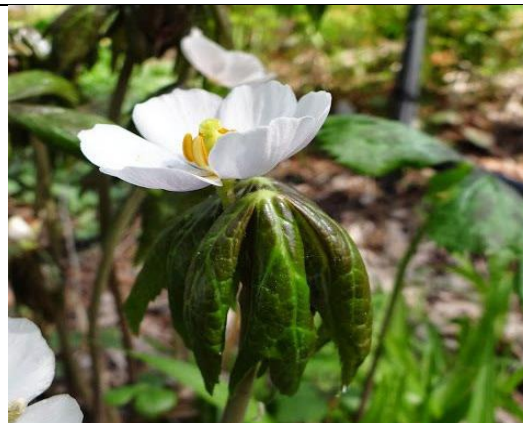
<b>S. No.</b>	<b>Scientific Name</b>	<i>Podophyllum emodi</i>
<b>1.</b>	<b>Local Name</b>	Ban kakrhi
	<b>Habit</b>	Herb
	<b>Parts Used</b>	Fruit / Rhizome
	<b>Flowering seasons</b>	May-August
	<b>Time of Collection/harvesting</b>	September to October
	<b>Uses</b>	It is used as hepatic stimulant and purgative. The rhizome contains an alkaloid that is used for cancer treatment. It is also used locally to control Jaundice and other liver diseases.







**Plants**



**Leaves**



<b>S. No.</b>	<b>Scientific Name</b>	<i>Paeonia emodi</i>	
<b>2.</b>	<b>Local Name</b>	Mamaikh	
	<b>Habit</b>	Herb	
	<b>Parts Used</b>	Seeds, tubers	
	<b>Flowering seasons</b>	May/June	
	<b>Time of Collection/harvesting</b>	September to October	
	<b>Uses</b>	<p><i>Paeonia emodi</i> is a medicinal plant used in many ways like, prevention of nervous attack, cholera and whooping cough. The tuber of the plant is highly effective medicine for uterine diseases, blood purifier, reducing abdominal discomfort, headache, dizziness, vomiting, while the seeds are purgative. An infusion of the dried flowers is given to control diarrhea. Locally people boil rhizome in milk, which is used for backbone ache.</p>	
			
<b>Whole Plant</b>		<b>Flower</b>	
			
<b>Seeds</b>		<b>Tubers / Pod</b>	



<b>S. No.</b>	<b>Scientific Name</b>	<i>Picrorhiza kurroa</i>
<b>3.</b>	Local Name	Kutki
	Habit	Herb
	Parts Used	Rhizomes/roots
	Flowering seasons	September-October
	Time of Collection/harvesting	October-December
	<b>Uses</b>	Locally used in the treatment of anemia, hepato-protective, increases flow of urine, stomachic, induces stimulation of bowel action.



**Flower**



**Young stage**



**Roots**



**Fruits**

<b>S. No.</b>	<b>Scientific Name</b>	<i>Skimmia laureola</i>
<b>4.</b>	<b>Local Name</b>	Nair / Nazar panra
	<b>Habit</b>	Shrub
	<b>Parts Used</b>	Leaves and stalk
	<b>Flowering seasons</b>	May-July
	<b>Time of Collection/harvesting</b>	September-October
	<b>Uses</b>	Locally the smoke produced by burning the leaves is said to purify the air. The leaves are used in medicine and when crushed give a musky odor. The leaves are used in the treatment of smallpox, and also locally used as evil repellent.



**Whole Plant**



**Flower**



**Leaves**



**Sapling**



<b>S. No.</b>	<b>Scientific Name</b>	<i>Acorus calamus</i>
<b>5.</b>	<b>Local Name</b>	Skha waja/Bach
	<b>Habit</b>	Herb
	<b>Parts Used</b>	Rhizome
	<b>Flowering seasons</b>	June-September
	<b>Time of Collection/harvesting</b>	November -December
	<b>Uses</b>	The dried rhizomes are used in painful discharge of blood and mucous along with bowels and chronic diarrhea. Used in stomach and mouth disorders, asthma, common cold, whooping cough. Locally powder of roasted herb with honey is used for treatment of whooping cough, and common cold. Infusion of rhizome is effective in abdominal pain and dyspepsia.



**Roots**



**Whole Plant**



**Flower**

<b>S. No.</b>	<b>Scientific Name</b>	<i>Primula denticulata</i>
<b>6.</b>	<b>Local Name</b>	Asal mameera
	<b>Habit</b>	Herb
	<b>Parts Used</b>	Flowers
	<b>Flowering seasons</b>	May-July
	<b>Time of Collection/harvesting</b>	May-July
	<b>Uses</b>	Locally used to cure eye diseases, also used as hair tonic.



**Whole Plants**



**Flower**



**Leaves**



**Whole plants**



<b>S. No.</b>	<b>Scientific Name</b>	<i>Rheum emodi</i>
7.	<b>Local Name</b>	Rewand Chini / Rhubarb
	<b>Habit</b>	Herb
	<b>Parts Used</b>	Roots, Stem, leaves
	<b>Flowering seasons</b>	July-August
	<b>Time of Collection/harvesting</b>	September-October
	<b>Uses</b>	Its roots are used to induce easy bowel movements. Leaves consumed as vegetables and salad, locally used in constipation, heart burn and stomach pain.



**Plant**



**Flower**



**Reddish Stem**



**Roots**

<b>S. No.</b>	<b>Scientific Name</b>	<i>Rheum webbianum</i>
<b>8.</b>	<b>Local Name</b>	Ishpar (Chitraly), Rewand Cheni (Urdu)
	<b>Habit</b>	Herb
	<b>Parts Used</b>	Roots, leaf stalk, Stem
	<b>Flowering seasons</b>	June-September
	<b>Time of Collection/harvesting</b>	September-October
	<b>Uses</b>	Root is commonly used to get rid of unwanted waste from the body, management of renal functions disorders & cancer. Leaf stalk is cooked as vegetable. The unripe stem and leaf stalk are also eaten raw for its taste. The young poor children collect the plant and sell it in the market to fetch some money.



**Plant**



**Flowering Stage**



**Plant**



**Roots**



<b>S. No.</b>	<b>Scientific Name</b>	<i>Corydalis ramosa</i>
<b>9</b>	<b>Local Name</b>	Mameera
	<b>Habit</b>	Herb
	<b>Parts Used</b>	Roots and seed
	<b>Flowering seasons</b>	May-August
	<b>Time of Collection/harvesting</b>	September to November
	<b>Uses</b>	Roots and seeds taken as carminative and also locally used to cure ophthalmic diseases.





<b>S. No.</b>	<b>Scientific Name</b>	<i>Trillium govanianum</i>
<b>11.</b>	<b>Local Name</b>	Tripatri / Mattar jarri
	<b>Habit</b>	Herb
	<b>Parts Used</b>	Roots
	<b>Flowering seasons</b>	May to June
	<b>Time of Collection/harvesting</b>	September to October
	<b>Uses</b>	The rhizomes of <i>Trillium govanianum</i> are used to treat skin infections, painful discharge of blood and mucous along with bowel, inflammation, menstrual and sexual disorders, as an antiseptic and in wound healing. Locally the rhizome is mixed with milk, used for sleeping of children.



**Plant**



**Plant**



**Roots**



**Flower and fruits**

<b>S. No.</b>	<b>Scientific Name</b>	<i>Valeriana jatamansi</i>
<b>12.</b>	<b>Local Name</b>	Mushk-e-bala
	<b>Habit</b>	Herb
	<b>Parts Used</b>	Whole plants/Rhizome
	<b>Flowering seasons</b>	May-July
	<b>Time of Collection/harvesting</b>	September-October
	<b>Uses</b>	Locally the whole plant is fed to livestock to promote milk production. The rhizome yields economically important aromatic oil which is used in the preparation of tranquilizers and a remedy for the suppression of urine. Flowers act as an anti depressant, also used as an important ingredient in perfumed powder.



**Whole Plant**



**Leaves**









**Flowers**



**Roots**



<b>S. No.</b>	<b>Scientific Name</b>	<i>Viola canescens</i> / <i>Viola spp.</i>
<b>13.</b>	<b>Local Name</b>	Banafshah
	<b>Habit</b>	Herb
	<b>Parts Used</b>	Whole Plant preferably flowers
	<b>Flowering seasons</b>	March to May
	<b>Time of Collection/harvesting</b>	Flowers harvested in mid March to May, while leaves are harvested from April to August.
	<b>Uses</b>	Used as traditional cure for cough, cold, fever and jaundice
		
<b>Whole Plant</b>		<b>Leaves</b>
		
<b>Roots</b>		<b>Flower</b>

<b>S. No.</b>	<b>Scientific Name</b>	<i>Adiantum capillas-venerus</i>
<b>14.</b>	<b>Local Name</b>	Persoshah
	<b>Habit</b>	Creeping fern
	<b>Parts Used</b>	Whole plants
	<b>Flowering seasons</b>	April-October
	<b>Time of Collection/harvesting</b>	April to November
	<b>Uses</b>	Leaf tea soothes sore throat, useful in asthma, cough, chest congestion, snake bites and expels worms. Locally infusion is used to increase flow of urine, as expectorant and antipyretic.
		
<b>Whole Plant</b>		<b>Leaves</b>







<b>S. No.</b>	<b>Scientific Name</b>	<i>Morchella conica</i>
<b>15.</b>	<b>Local Name</b>	Tora Guchai
	<b>Habit</b>	<i>Fungi/Mushroom</i>
	<b>Parts Used</b>	<i>Whole</i>
	<b>Flowering seasons</b>	N/A
	<b>Time of Collection/harvesting</b>	March-May
	<b>Uses</b>	Morels have many nutrients including, proteins, vitamins and minerals. These are generally used for curing wounds, skin diseases, epilepsy, rheumatoid arthritis, heart ailments, cholera, irregular fevers, dysentery, diaphoretic, diarrhea, anesthesia, cold, liver disease, gall bladder infection, asthma, tumor, cholesterol, stress, diabetes and insomnia diseases. That is the reason that mushrooms are considered as a good source of diet and medicine for human beings, usually marketed to local vendors / Hakims. Local community eats it to enhance immune system against many diseases.



<b>S. No.</b>	<b>Scientific Name</b>	<i>Morchella esculenta</i>
<b>16.</b>	<b>Local Name</b>	Common Guchai
	<b>Habit</b>	Mushroom/fungi
	<b>Parts Used</b>	Whole body
	<b>Flowering seasons</b>	N/A
	<b>Time of Collection/harvesting</b>	March-May
	<b>Uses</b>	Morels have many nutrients including proteins, vitamins and minerals. These are generally used for curing wounds, skin diseases, epilepsy, rheumatoid arthritis, heart ailments, cholera, irregular fevers, dysentery, diaphoretic, diarrhea, anesthesia, cold, liver disease, gall bladder infection, asthma, tumor, cholesterol, stress, diabetes and insomnia diseases. That is the reason that mushrooms are considered as a good source of diet and medicine for human beings, marketed to local vendors / Hakims. Local community eats it to enhance immune system against many diseases



<b>S. No.</b>	<b>Scientific Name</b>	<i>Pteridium aquilinum</i>
<b>17.</b>	<b>Local Name</b>	Barhei pani
	<b>Habit</b>	Herb
	<b>Parts Used</b>	Leaves
	<b>Flowering seasons</b>	June-July
	<b>Time of Collection/harvesting</b>	September
	<b>Uses</b>	The leaves have been used in a steam bath as a treatment for swollen joints. A decoction of the plant has been used in the treatment of worms and tuberculosis. A poultice (Heated plaster) with paste of Fern leaves has been used to treat sores of any type and also to bind broken bones in place and also used locally as vegetables.
		
<b>In growing season</b>		<b>Leaves(Fronds)</b>
		
<b>Frond with sporangia</b>		<b>Frond in early autumn</b>



<b>S. No.</b>	<b>Scientific Name</b>	<i>Arisaema flavum</i>
<b>18.</b>	<b>Local Name</b>	Mar jarai
	<b>Habit</b>	Herb
	<b>Parts Used</b>	Rhizomes/Fruits
	<b>Flowering seasons</b>	June-July
	<b>Time of Collection/harvesting</b>	August-September
	<b>Uses</b>	Locally the plant parts are used for cough and cold. Rhizome of this specie is used as remedy to cure the effect of poison for snake bite and scorpion sting.



**Whole Plant**



**Flower**



**Seeds**



**Rhizome**

<b>S. No.</b>	<b>Scientific Name</b>	<i>Hedra helix</i>
<b>19</b>	<b>Local Name</b>	Zalyae Ivy/ Ivy
	<b>Habit</b>	Climber/Creeper
	<b>Parts Used</b>	Leaves
	<b>Flowering seasons</b>	October/November
	<b>Time of Collection/harvesting</b>	Leaves in spring and early summer
	<b>Uses</b>	Ivy leaf is used to relieve symptoms that affect the respiratory system in particular coughs and catarrh (inflammation of the nose and throat with increased production of mucus). Locally leaves extract is used for curing diabetes, blood pressure and blood purifier.



**Plant (Climber)**







**Fruits**



**Flower buds**











**Leaves**

<b>S. No.</b>	<b>Scientific Name</b>	<i>Datura stramonium</i>
<b>20.</b>	<b>Local Name</b>	Datura
	<b>Habit</b>	Herb
	<b>Parts Used</b>	Flower leaves and seeds
	<b>Flowering seasons</b>	March-July
	<b>Time of Collection/harvesting</b>	Late summer
	<b>Uses</b>	The plant as a whole is narcotic and relieves the incidence of muscle spasm. The local application of Datura leaves poultice is used for rheumatic swelling of joints, backache, painful tumor, glandular inflammation The juice of flowers is useful for ear ache. Seeds are useful as astringent in bowel complaints, fever and skin diseases. The juice of the fruit is applied to the scalp for curing dandruff and hair breakage.
		
<b>Whole Plant</b>		<b>Fruits</b>
		
<b>Mature Flower</b>		<b>Immature Flowers</b>





**DESCRIPTION OF MEDICINAL AND AROMATIC PLANTS OF MALAKAND FOREST REGION**

<b>S. No.</b>	<b>Scientific Name</b>	<i>Aconitum heterophyllum</i>
<b>21.</b>	<b>Local Name</b>	Zahar mora
	<b>Habit</b>	Herb
	<b>Parts Used</b>	Underground stand root
	<b>Flowering seasons</b>	June to August
	<b>Time of Collection/harvesting</b>	October to November
	<b>Uses</b>	<i>Aconitum heterophyllum roots</i> tuber is used to alleviate fever, kill intestinal worm, and anti-inflammatory actions. Locally used to help in the treatment of bronchitis, persistent cough, upper respiratory tract infection, common cold, flu and for malaria. The roots are bitter, expectorant, stomachic, digestive, and used as tonic.
		
<b>Whole Plant</b>		<b>Flower</b>
		
<b>Leaves</b>		<b>Roots</b>



<b>S. No.</b>	<b>Scientific Name</b>	<i>Glycyrrhiza glabra</i>
<b>22.</b>	<b>Local Name</b>	Mulethi
	<b>Common Name (Eng)</b>	Liquorice
	<b>Habit</b>	Herb
	<b>Parts Used</b>	Roots
	<b>Flowering seasons</b>	June/July
	<b>Time of Collection/harvesting</b>	September to November
	<b>Uses</b>	<i>Glycyrrhiza glabra</i> root helps to clear the chest of phlegm by coughing used as soothing agent, enhance red blood cells, fever cough and skin diseases, people chew its stick for soothing cough.
		
<b>Whole Plant</b>		<b>Flower</b>
		
<b>Leaves</b>		<b>Roots</b>



<b>S. No.</b>	<b>Scientific Name</b>	<i>Asparagus adscendens</i>
<b>23.</b>	<b>Local Name</b>	Safed Musli
	<b>Habit</b>	Herb
	<b>Parts Used</b>	Rhizome
	<b>Flowering seasons</b>	March/May
	<b>Time of Collection/harvesting</b>	September – October
	<b>Uses</b>	<i>Asparagus adscendens</i> is used locally for cure for upset stomach (dyspepsia), constipation, stomach spasms, and stomach ulcers. It is also used for fluid retention, pain, anxiety, cancer, diarrhea, bronchitis, tuberculosis, dementia, and diabetes.
		
<b>Whole Plant</b>		<b>Flower</b>

<b>S. No.</b>	<b>Scientific Name</b>	<i>Berberis vulgaris</i> Linn
<b>24.</b>	<b>Local Name</b>	Tor Kwaray
	<b>Habit</b>	Sub-shrub
	<b>Parts Used</b>	Root bark/ Stem bark fruits , flower
	<b>Flowering seasons</b>	May-June
	<b>Time of Collection/harvesting</b>	Fruits are collected in July to August and bark is collected in October to November
	<b>Uses</b>	<i>Berberis vulgaris</i> is used to treat fever, cough, liver disease, depression, reducing fats and sugar in blood. Over 500 plants from genus Berberis are accessible to people across the world with four pharmaceutical organs being used to treat different diseases. Locally its fruits are sold fresh and its bark is used in throat infection.



<b>Whole plant</b>	<b>Flowering stage</b>
	
<b>Fruit</b>	<b>Roots</b>

<b>S. No.</b>	<b>Scientific Name</b>	<i>Bergenia ciliata</i>
<b>25.</b>	<b>Local Name</b>	Zakham-i- Hayat/ Gat panra
	<b>Habit</b>	Herb
	<b>Parts Used</b>	Rhizome-Leaves Juice
	<b>Flowering seasons</b>	March-May
	<b>Time of Collection/harvesting</b>	September-December
	<b>Uses</b>	The juice of the leaves is used as drops to relieve earaches. The root is used as a tonic in the treatment of fevers, diarrhea and pulmonary infections. The root juice is used to treat coughs and colds, hemorrhoids, asthma and urinary problems.



**Plant**



**Flower**



**Roots**



**Seeds stage**



<b>S. No.</b>	<b>Scientific Name</b>	<i>Bistorta amplexicaulis</i> (D. Don) Green
<b>26.</b>	<b>Local Name</b>	Anjabar
	<b>Habit</b>	Herb
	<b>Parts Used</b>	Rhizome
	<b>Flowering seasons</b>	June-September
	<b>Time of Collection/harvesting</b>	November to December
	<b>Uses</b>	<i>Bistorta amplexicaulis</i> is used as a tea and tonic, useful in dysentery, rheumatism, backache, ulcer, bleeding gums, diarrhea. Dried rhizome is used for making tea. The decoction (10 ml) of rhizome is taken thrice a day for treatment of rheumatic pains, backache, fever and flu.



**Roots**





**Fruits**



**Whole Plant**



**Flower**

<b>S. No.</b>	<b>Scientific Name</b>	<i>Colchicum luteum Baker</i>
27.	<b>Local Name</b>	Suranjn-e-Talkh
	<b>Habit</b>	Herb (Bulb)
	<b>Parts Used</b>	Roots (Powderd form)
	<b>Flowering seasons</b>	Februaryand early March
	<b>Time of Collection/harvesting</b>	June to September
	<b>Uses</b>	<i>Colchicum luteum</i> is used as a carminative, laxative, and as a tonic. Colchicines are effective in the treatment of gout disease, rheumatism, and diseases of liver and spleen. Externally, the corms are applied as paste to lessen inflammation and pain.
		
<b>Whole Plants</b>		<b>Corm</b>

<b>S. No.</b>	<b>Scientific Name</b>	<i>Corydalis govaniiana</i> Wall. Ex. Tent
<b>28.</b>	<b>Local Name</b>	Mamera
	<b>Habit</b>	Herb
	<b>Parts Used</b>	Root-Leaves
	<b>Flowering seasons</b>	June /July
	<b>Time of Collection/harvesting</b>	November-December
	<b>Uses</b>	Leaves used as an antidote, anti-inflammatory, febrifuge and vermifuge, it is used in the treatment of disorders from poisoning, swelling of the limbs and stomach / intestinal pain due to worm infestation.



**Plant**

**Flower**



**Stem**

**Leaves**



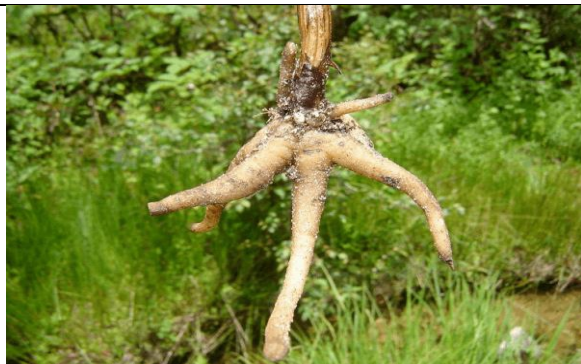
<b>S. No.</b>	<b>Scientific Name</b>	<i>Dactylorhiza hatagirea D. Don</i>
<b>29.</b>	<b>Local Name</b>	Salam Panja
	<b>Habit</b>	Herb
	<b>Parts Used</b>	Roots
	<b>Flowering seasons</b>	June-July
	<b>Time of Collection/harvesting</b>	October-November
	<b>Uses</b>	Roots are generally used as nerving tonic for its astringent and aphrodisiac properties, and it is widely used to cure dysentery, diarrhoea, chronic fever, cough, stomachache, wounds, cuts, burns, fractures and general weakness, particularly in debilitated women after delivery and to increase regenerative fluids.



**Whole Plant**



**Flowering stage**



**Roots**



**Seeds**

<b>S. No.</b>	<b>Scientific Name</b>	<i>Delphinium roylei</i> Munz
30	<b>Local Name</b>	Larkspur / Jadwar
	<b>Habit</b>	Herb
	<b>Parts Used</b>	Flowers / Rhizome
	<b>Flowering seasons</b>	May/June
	<b>Time of Collection/harvesting</b>	September-October
	<b>Uses</b>	The juice of the flowers is mixed with alum which gives a blue ink. All plant parts are poisonous in large doses, especially the seeds that contain up to 1.4% of alkaloids. Locally used to treat poor appetite and trouble sleeping.



**Plant**



**Seeds**











**Roots**



**Flower**



<b>S. No.</b>	<b>Scientific Name</b>	<i>Dioscorea deltoidea</i> Wall ex Kunth
<b>31</b>	<b>Local Name</b>	Kanis
	<b>Habit</b>	Herb
	<b>Parts Used</b>	Rhizome
	<b>Flowering seasons</b>	May-June
	<b>Time of Collection/harvesting</b>	September-October
	<b>Uses</b>	<i>Dioscorea deltoidea</i> rhizomes are used for the treatment of different diseases such as digestive disorders, sore throat for diarrhea, irritability, abdominal pain, wounds, burns, anemia, etc. The genus <i>dioscorea</i> has recently gained much significant reputation as a source of steroidal saponins like diosgenin.
		
<b>Whole Plant</b>		<b>Roots</b>
		
<b>Flowering stage</b>		<b>Seeds propagation stage in Lab</b>

<b>S. No.</b>	<b>Scientific Name</b>	<i>Ferula assa-foetida L</i>
32	<b>Local Name</b>	Hing
	<b>Habit</b>	Herb
	<b>Parts Used</b>	Rhizome
	<b>Flowering seasons</b>	February-March
	<b>Time of Collection/harvesting</b>	Flowers and seeds should be harvested either in February–March or April–May, depending on the climatic conditions of the area.
	<b>Uses</b>	Dried resin is obtained from the tap root and rhizomes of this plant. <i>Asafoetids</i> is used widely as a flavoring spice in a variety of food. Traditionally, it is used for the treatment of various diseases, such as asthma, epilepsy, stomach ache, flatulence, intestinal parasites and weak digestion.
		
<b>Whole Plant</b>		<b>Leaves</b>
		
<b>Inflorescence</b>		<b>Powder obtained from plant</b>

<b>S. No.</b>	<b>Scientific Name</b>	<i>Cuscuta reflexa</i>
<b>33.</b>	<b>Local Name</b>	Akash bail
	<b>Habit</b>	Herb (climber)
	<b>Parts Used</b>	Stem, fruit, seeds
	<b>Flowering and fruiting seasons</b>	August-September / January-February.
	<b>Time of Collection / harvesting</b>	October-November
	<b>Uses</b>	Seeds are used to kill intestinal worms and as carminative. Plants cure abdominal discomfort, headache. The plant is bitter, sweet, astringent, expectorant, carminative, tonic, expel parasitic worms and is useful in jaundice, cough, bronchitis, fever and paralysis.







**Whole Plant**



**Flowering stage**



<b>S. No.</b>	<b>Scientific Name</b>	<i>Myrtus communis</i>	
<b>34.</b>	<b>Local Name</b>	Manroo	
	<b>Habit</b>	Shrub	
	<b>Parts Used</b>	Root-Fruit	
	<b>Flowering and Fruiting seasons</b>	May-June	
	<b>Time of Collection/harvesting</b>	September to November	
	<b>Uses</b>	Leaves are boiled in water with ghur and the decoction is filtered and used for abdominal pain and diarrhea. Leaves are usually added to tea for its unique taste, have antidepressant and pleasant effect, enhance memory. The leaves, berries and twigs are used in flavoring of food and wines.	
			
	<b>Whole Plant</b>	<b>Flower</b>	
			
	<b>Fruit</b>	<b>Seeds</b>	

<b>S. No.</b>	<b>Scientific Name</b>	<i>Zanthoxylum armatum</i>
<b>35.</b>	<b>Local Name</b>	Dambara
	<b>Habit</b>	Shrub or Sub-Tree
	<b>Parts Used</b>	Fruits-Seeds
	<b>Flowering and fruiting seasons</b>	March/September
	<b>Time of Collection/harvesting</b>	October-January
	<b>Uses</b>	It is used to treat diseases like, Asthma, Bronchitis, Cholera, Fever, Indigestion, Rheumatism, Skin diseases, Toothache, Varicose Veins. The fruits and seeds are employed as an aromatic tonic in fever and indigestion, also used as spices.



**Plant**



**Leaves**







**Fruits on twigs**





**Seeds**



<b>S. No.</b>	<b>Scientific Name</b>	<i>Juglans regia</i>
<b>36.</b>	<b>Local Name</b>	Goawaz/ Akhroot
	<b>Habit</b>	Tree
	<b>Parts Used</b>	Leaves, fruit, Root Bark , Seed
	<b>Flowering seasons</b>	April. May
	<b>Time of Collection/harvesting</b>	October-November
	<b>Uses</b>	The leaves and root Bark are used as anti-inflammatory, astringent. They are used internally the treatment of constipation, chronic coughs, asthma, diarrhea, dyspepsia etc. The leaves are also used to treat skin ailments and purify the blood. The fruit is used as brain tonic and reduces blood cholesterol level. Traditionally, bark (locally called Dandasa) is used for cleaning and sparkling of teeth; decoction of leaves against redness of skin disease and intestinal worms.
		
<b>Whole Plant</b>		<b>Seed</b>
		
<b>Fruit and Leaves</b>		<b>Inflorescence of walnut</b>



<b>S. No.</b>	<b>Scientific Name</b>	<i>Mentha longifolia</i>
<b>37.</b>	<b>Local Name</b>	Elannay /Jangli Podina
	<b>Habit</b>	Herb
	<b>Parts Used</b>	Whole plant
	<b>Flowering seasons</b>	June – August
	<b>Time of Collection/harvesting</b>	September-October
	<b>Uses</b>	It is mainly used for respiratory ailments but many other uses have also been recorded. It is mostly the leaves that are used, usually to make a tea that is drunk for coughs, colds, stomach cramps, asthma, gases in the stomach, indigestion and headaches. Externally, wild mint has been used to treat wounds and swollen glands. Locally used with yogurt or lassi to cure digestion and gastric problems.
		
<b>Whole Plant</b>		<b>Seed</b>

<b>S. No.</b>	<b>Scientific Name</b>	<i>Aconitum violaceum</i>
<b>38.</b>	<b>Local Name</b>	Zahar mora
	<b>Habit</b>	Herb
	<b>Parts Used</b>	Whole plant
	<b>Flowering seasons</b>	July-September
	<b>Time of Collection/harvesting</b>	September-October
	<b>Uses</b>	It is used in the treatment of snake and scorpion bites, contagious infections and inflammation of the intestines. The entire plant is used in Tibetan medicine, it is said to have a bitter taste and a cooling potency, anti-inflammatory and reduces fever.



**Whole Plant**







**Flowering stage**



**Leaves**



**Stem**

<b>S. No.</b>	<b>Scientific Name</b>	<i>Thymus serpyllum</i>
<b>39.</b>	<b>Local Name</b>	Jangli Ajwain
	<b>Habit</b>	Sub-shrub
	<b>Parts Used</b>	Whole plant
	<b>Flowering seasons</b>	Early to Late Summer
	<b>Time of Collection/harvesting</b>	Late summer
	<b>Uses</b>	The whole plant is used to kill intestinal worms, strongly antiseptic, relieve spasm, carminative, deodorant, diaphoretic, disinfectant, expectorant, sedative and tonic. It is taken internally in the treatment of bronchitis, catarrh, laryngitis, flatulent indigestion, painful menstruation, and colic hangovers.
		
<b>Whole Plant while creeping</b>		<b>Culture of Flowers</b>
		
<b>Leaves</b>		<b>Seeds</b>



<b>S. No.</b>	<b>Scientific Name</b>	<i>Polygonatum verticillatum</i>
<b>40.</b>	<b>Local Name</b>	Noor-i-alam
	<b>Habit</b>	Herbs
	<b>Parts Used</b>	Rhizome
	<b>Flowering seasons</b>	May-July
	<b>Time of Collection/harvesting</b>	October - November
	<b>Uses</b>	A high valued medicinal herb of temperate Himalaya is extensively used to cure various health troubles as cardio tonic, soothing agent, diuretic, energizer, stimulate sexual function, hypoglycemic, antitumor, pain reliever, general tonic, nerve tonic.



**Whole Plant**



**Leaves**











**Flowers**



**Rhizome**

### Description Of Medicinal And Aromatic Plants of Southern Regions

<b>S. No.</b>	<b>Scientific Name</b>	<i>Withania coagulans</i>
<b>41.</b>	<b>Local Name</b>	Khapyangay
	<b>Habit</b>	Shrub
	<b>Parts Used</b>	Roots-Fruits
	<b>Flowering seasons</b>	Autum-Winter
	<b>Time of Collection/harvesting</b>	Spring-Summer
	<b>Uses</b>	<i>Withania coagulans</i> is used to treat nervous exhaustion, disability, insomnia, wasting diseases, failure to thrive in children and impotence. The fruits of the plant are reported to be used in reduction of excitement, pain and irritation, induces emetic, alterative and diuretic. Further, locally they are used for liver complaints, asthma and abdominal discomfort.
		
<b>Whole Plant</b>		<b>Seeds</b>
		
<b>Flowers seen</b>		<b>Leaves</b>

<b>S. No.</b>	<b>Scientific Name</b>	<i>Withania somnifera</i>
<b>42.</b>	<b>Local Name</b>	Kuti Lal
	<b>Habit</b>	Herb
	<b>Parts Used</b>	Roots
	<b>Flowering and fruiting seasons</b>	June -July
	<b>Time of Collection/harvesting</b>	October – November
	<b>Uses</b>	The plant has been used as an aphrodisiac, liver tonic, anti-inflammatory agent, and more recently to treat asthma, ulcers, insomnia. Clinical trials and animal research support the use of plant for anxiety, cognitive and neurological disorders, and inflammation.
		
	<b>Whole Plant</b>	<b>Fruits seen</b>
		
	<b>Roots</b>	<b>Root Powder</b>



<b>S. No.</b>	<b>Scientific Name</b>	<i>Solanum surrattense</i>
43.	<b>Local Name</b>	Maragunary
	<b>Habit</b>	Herb
	<b>Parts Used</b>	Whole plant
	<b>Flowering and Fruiting seasons</b>	October-November
	<b>Time of Collection/harvesting</b>	May-December
	<b>Uses</b>	The plant is used as an, antiasthmatic, mild fugitive, bitter, digestive, diuretics, reduces fever, pungent, carminative, anodyne, antiemetic and expectorant. The fruit is laxative. Fumigations with the vapour of the burning seeds of this plant are found useful for the cure of toothache.



**Whole Plant**







**Fruits**



**Flowers seen**



**Seeds**

<b>S. No.</b>	<b>Scientific Name</b>	<i>Tribulus terrestris</i>
<b>44.</b>	<b>Local Name</b>	Markunday
	<b>Habit</b>	Herb
	<b>Parts Used</b>	Whole plant
	<b>Flowering and fruiting seasons</b>	April-
	<b>Time of Collection/harvesting</b>	August September
	<b>Uses</b>	<i>Tribulus terrestris</i> is widely used as a general health supplement, as well as in supplements that claim to increase testosterone levels. Traditionally, people have used this plant for a variety of potential effects, including to enhance libido, build muscles, keep the urinary tract healthy and reduce swelling.
		
<b>Whole Plant</b>		<b>Seeds</b>
		
<b>Roots</b>		<b>Tablet</b>

<b>S. No.</b>	<b>Scientific Name</b>	<i>Ziziphus mauritiana</i>
<b>45.</b>	<b>Local Name</b>	Bery
	<b>Habit</b>	Tree
	<b>Parts Used</b>	Fruits
	<b>Flowering and fruiting seasons</b>	August-September
	<b>Time of Collection / harvesting</b>	September-October
	<b>Uses</b>	The plant is used for improving muscular strength and weight, for preventing liver and bladder diseases and stress ulcers, and as a sedative. It is also used to reduce constipation and commonly used as a fruit.



**Leaves**



**Fruits**



**Seeds**



**Leaf Powder**



<b>S. No.</b>	<b>Scientific Name</b>	<i>Acacia modesta</i>
<b>46.</b>	<b>Local Name</b>	Palosa
	<b>Habit</b>	Tree
	<b>Parts Used</b>	Gum
	<b>Flowering and fruiting seasons</b>	April-May
	<b>Time of Collection/harvesting</b>	June-August
	<b>Uses</b>	It is well known honey bee plant species. Gums are locally used as tonic. Traditionally, it has been used to treat leprosy, wounds, dysentery, cough, body weakness, bacterial infections and backache.



**Plant**



**Flowering stage**

<b>S. No.</b>	<b>Scientific Name</b>	<i>Lepidium sativum</i>
47.	<b>Local Name</b>	Halam
	<b>Habit</b>	Herb
	<b>Parts Used</b>	Seeds
	<b>Flowering and fruiting seasons</b>	June-August
	<b>Time of Collection/harvesting</b>	September
	<b>Uses</b>	<i>Lepidium sativum</i> is widely used in folk medicine for treatment of hyperactive airways disorders, such as asthma, bronchitis and cough. It is also used to break the pregnancy by local females.



**Whole Plant**



**Flower**



**Seeds**



**Leaves**

<b>S. No.</b>	<b>Scientific Name</b>	<i>Foeniculum vulgare</i>
48.	<b>Local Name</b>	Sonf,
	<b>Habit</b>	Herb
	<b>Parts Used</b>	Seeds
	<b>Flowering and fruiting seasons</b>	August-October
	<b>Time of Collection/harvesting</b>	October-November
	<b>Uses</b>	<i>Foeniculum vulgare</i> (Apiaceae) commonly known as fennel is a well-known and important medicinal and aromatic plant. Locally, the dried fruits are mixed with sugar and grinded and are eaten after meal for abdominal pain. Widely used as carminative, digestive, diuretic and in treating respiratory and gastrointestinal disorders.



**Whole Plant**



**Inflorescence**



**Seeds**



**Fennel seed oil**



<b>S. No.</b>	<b>Scientific Name</b>	<i>Calotropis procera</i>
49.	<b>Local Name</b>	Spelmaka/ Spalmai
	<b>Habit</b>	Shrub
	<b>Parts Used</b>	Flower / Latex
	<b>Flowering and fruiting seasons</b>	Throughout the Year
	<b>Uses</b>	The plant is reported as effective in treating, ulcer, skin problems, respiratory and also used to treat fevers. Locally, latex of leaves and roots is obtained to relieve diarrhea.



**Whole Plant**







**Fruit**



**Seeds enclosed in fruit**



**Crown flower**

<b>S. No.</b>	<b>Scientific Name</b>	<i>Aloe vera</i>
<b>50.</b>	<b>Local Name</b>	Kwar Gandal
	<b>Habit</b>	Herb
	<b>Parts Used</b>	Leave / Latex
	<b>Flowering and fruiting seasons</b>	Bloom sporadically throughout the year.
	<b>Uses</b>	<p>Heals burns, due to its soothing, moisturizing, and cooling properties, <i>Aloe vera</i> is often used to treat burns, improves digestive health, promote oral health, clears acne, diabetic liver infection, hypertension and heart diseases.</p> <p>It has been also used for wounds, hair loss, and hemorrhoids; it has also been used as a laxative. Two substances from <i>Aloe Vera</i>, the clear gel and the yellow latex, are used in cosmetic and health products today.</p>
		
<b>Whole Plant</b>		<b>Aloe Vera Gel</b>
		
<b>Seeds enclosed in fruit</b>		<b><i>Aloe Vera</i> flower</b>

## 7. Focus Group Discussion (FGD)

Focus Group discussion (FGD) was conducted separately in each region. The participants in FGD were community members and staff of NTFP Directorate, Khyber Forest Department. The objective of FGD was to understand the available Medicinal and Aromatic plant (MAPs) known to the local people, their common name and part used. Pictures taken during FGD are given below.

