

COMMUNITY BASED FOREST CONSERVATION IN UPPER DIR DISTRICT, NWFP"



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Final Progress Report

1. **Project Number:** 50038201
2. **Project Title:** **Community Based Forest Conservation in Upper Dir District, NWFP**
3. **Project Executants:** Behram Khan
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4. **Project Duration:** 12 Months
 - a) Starting Date: November 01, 2005
 - b) Ending Date: October 31, 2006
 - c) Progress Report for the Period Nov 01, 2005 to October 31, 2006
5. **Project Objective:** Build the capacity of Social Youth Welfare Organization (SYWO) for understanding conservation issues in Upper Dir, with initial focus on "Usherai Darra" and initiate efforts for their conservation.

6. Brief Introduction of the Project

The upper parts of NWFP are rich in forest resources: however, their unsustainable uses have led to a degraded environment and eroded forest landscapes. The situation is particularly bad in upper Dir where very few forest stands are left in original shape.

Usheraï is situated in Upper Dir and can be located on its easting and northing as from 72° 16' to 72° 50' and from 35° 06' to 35° 16'. The valley is well forested and supports sub-tropical scrub, moist temperate and alpine types of forests.

7. The Problem

With high poverty level, and limited resources to earn livelihood, the local community remains with options of forests to earn. Their unawareness and lack of understanding results in degradation of their natural resources in general and forests in particular. To promote sustainable forest use, and generate income from non-timber forest produce, capacity building of the local community in realizing advantages of their area other than timber from forests is of crucial importance. Over grazing from livestock and particularly nomadic grazers with around 10000 livestock heads is a major problem that results in forest degradation and miss-use of pastures. The local community leases their pastures to nomads for around Rs.300,000/- annually. Eco-tourism promotion in the area, would provide income multifold greater than this. This needs motivation of the local community, publicity system, and exposure at national level. With low literacy levels, the Usheraï is one of the areas presenting low awareness levels also. There is need for their training and capacity building in natural resources. This project addresses forest conservation issues of the Usheraï Valley through conservation training and conservation education.

Due to lack of knowledge, low life quality, lack of information and orientation in health and hygiene, people of the valley are suffering from different diseases especially women and children. They depend only on one primary Health center in a total of 200 sq km area, which is inefficient due to insufficient staff, equipment and medicines. The nearest hospital is situated 40 km away in Dir, and not in the access of poor local people. Previously people of the valley were relying on herbal remedies as a principal means of preventing and curing illnesses. However, these resources, and local knowledge of them, are being threatened by unsustainable uses, eroded by cultural change, and a lack of institutional support. In the existing situation there is a great need to document and promote the indigenous knowledge regarding the use of traditional medicine system.

8. The Project approach

While understanding that only grass root NGOs could motivate the community for resource conservation, there are not many NGOs in the field of environment. Recently, a local NGO, called Social Youth Welfare Organization (SYWO) has

approaches WWF-P (Regional Office, Peshawar) for support to address environmental issues in an important forest area in the Ushera Darra of upper Dir District.

Social Youth Welfare Organization (SYWO) with the support of Scientific Committee and WWF-P, Regional office Peshawar has initiated Forest conservation in Ushera Valley. As part of the capacity building process of the NGO, staff of WWF-P, Peshawar helped trainings for the staff of SYWO and the community, they are working with on Nursery raising, Kitchen gardening, preserve indigenous knowledge regarding MP's and data collection through GPS.

9. Methodology

The project organized on farm training workshops both for men and women, for the staff of SYWO and the community, they are working with on Nursery raising, Kitchen gardening. One day training workshop was also organized for SYWO staff on the collection of data through GPS. Questionnaire survey was conducted to dig out and preserve indigenous knowledge regarding MP's.

10. Targets for the reporting period

- Training on using of GPS and collecting data for developing locality map of the valley
- On farm -training workshop for local communities on nursery raising and Kitchen gardening
- Train SYWO staff members on indigenous knowledge preservation, documentation and data collection
- Develop Digitizes Locality map of Ushera Darra
- Data Analysis and report writing regarding indigenous knowledge of MP's
- Locate important conservation areas/forest hot spots in Ushera Darra

11. Major activities and progress made so far

11.1. Training on the use of GPS for the staff of SYWO:

One of the most important aspects in forest management is the need of authentic information. There is always need of proper positioning of the various aspects of forest of any particulate area. To get in depth scientific information of the forest resources of Ushera Darra in proper operation of GPS, a one-day training workshop organized by WWF-P for the staff of SYWO. The objective of the



workshop was to build the capacity of the participant in using GPS for data collection.

The workshop started at 10:00 am in the office of SYWO. Total of nine participants got the training. They were briefed on the importance of scientific data collection for forest conservation in the light of present scenario. The earth system, longitude and latitude of the earth were explained for understanding the function of the GPS and how GPS work through different satellites through presentation. In the next session participants were practically involved in taking reading from the GPS. Certificates were distributed among the participants at the end of the workshop



Training on GPS



Data Collection through GPS

11.2. Training on Nursery raising and Kitchen gardening:

A two-day training workshop was organized jointly by WWF-P and SYWO on nursery raising techniques and kitchen gardening in Ushera Darra. In this training 26 local women and 35 men were participated from different villages of Ushera Darra. . The objective of this workshop was to build the capacity of locals in nursery raising and kitchen gardening. Nursery raising techniques improve the skills of local people for plantation in their area.



Briefing on Nursery Raising

The workshop started at 1100hrs in one of the local school of Ushera Darra for women and in union council office for men. After the introduction session, participants were briefed on the importance of plant

resources and their common uses. Then objectives of the nursery were explained. Participants were briefed on different steps of nursery raising: To evaluate the knowledge gained both by the men and women in the workshop, questions were asked from them about the nursery raising steps at the end and group photo was taken.



In the next session participants were practically involved in the nursery raising steps on the ground of the school. All the participants were actively involved in different steps of nursery raising.

Next day covered through imparted training on “growing off season vegetables” only for women. Ms. Shabana Haider and Sabiha Zaman were the resource persons for the training. In the first session the participants were briefed on the benefits of the kitchen gardening and soil preparation.



In the second session they were practically involved in the vegetable plot preparation and seed sowing. This was done on the plot of the nearby participant. They were briefed on the suitable season for vegetable growing. All the participants were actively involved in the steps of kitchen gardening.

At the end of the workshop certificates were distributed among the participants (men and women) for their active participation in both the trainings.



On the same day staff members of SYWO, with the help of WWF-P staff developed a questionnaire for collecting data regarding indigenous knowledge of medicinal plants present in the area. SYWO Staff members were also trains how to collect data thought these questionnaires.



11.3. Data collection regarding indigenous knowledge of MP's

Staff members of SYWO collected data through questionnaire to dig out and preserve indigenous knowledge regarding MP's. Total of 100 questionnaires were filled from the local people such as 50 from male and 50 from female. Data were analysed for report compilation during the reporting period.

11.4. Develop Location Map of the Valley

During the reporting period the data were collected through GPS, to develop a GIS based location map of Ushera Darra, which is now available. See Annex I

11.5. Indigenous Knowledge regarding Medicinal Plants used by Local Community of Ushera Valley, District Dir

The collected data through questionnaire survey were analyzed properly. The study revealed that the important and locally collected plants, from different parts of the project area were 30 species belonging to 25 families. Locally these plants are used in recipes for curing illnesses. Twenty eight recipes using by the local community in the area for curing different diseases were also documented. See Annex II for detail report regarding indigenous knowledge of medicinal plants.

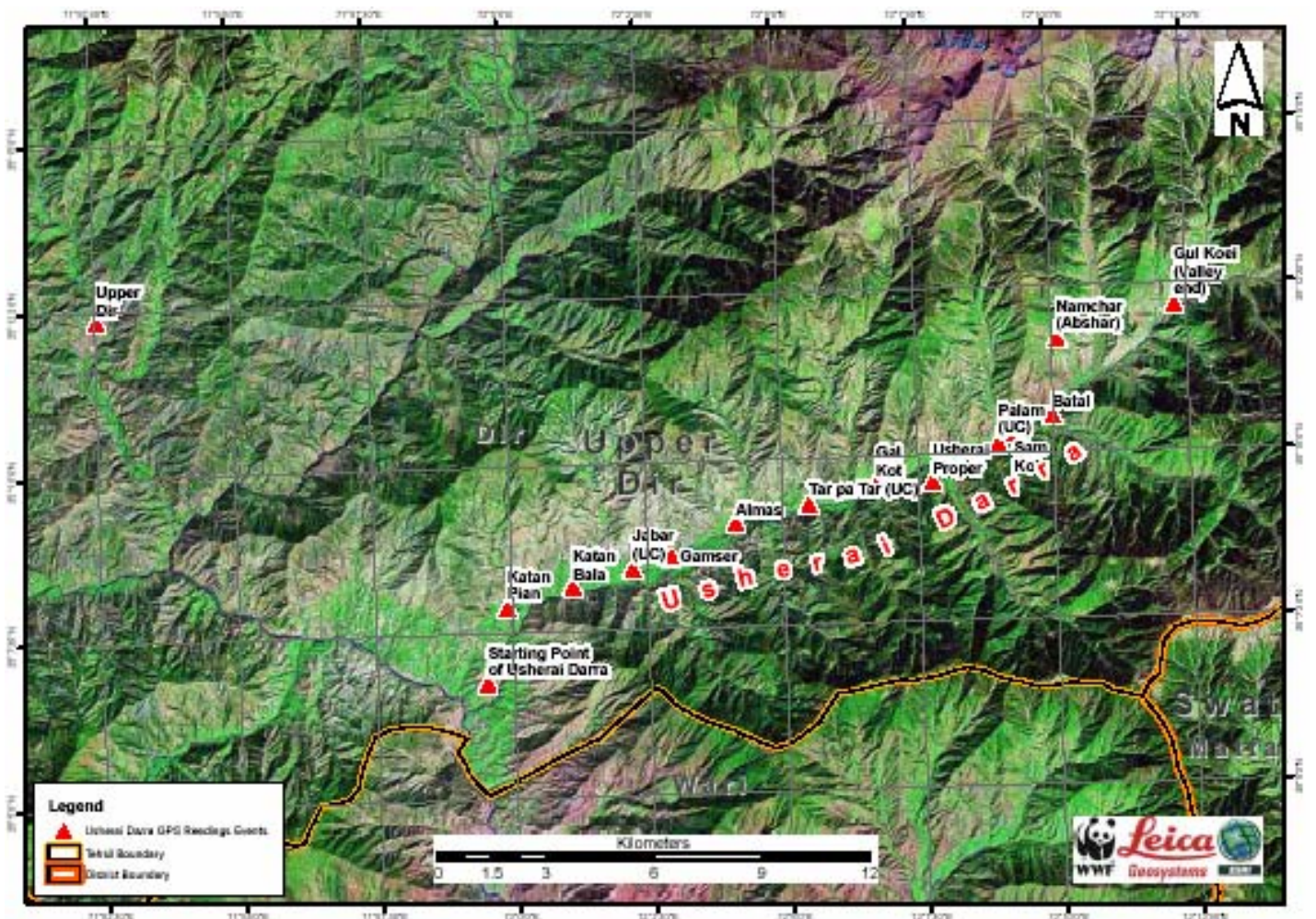
11.6. Locate important conservation areas/forest hot spots in Ushera Darra through digitized map

One of the basic objectives of the project was to locate important conservation areas/forest hot spots in Ushera Darra. For this purpose, data were collected by the staff of SYWO through GPS. During the field visit, the coordinates of different locations such as forest of good vegetation cover having watershed value, springs etc. were received through GPS. Boundaries of different villages, watershed divides and different vegetation density were modified on a toposheet of the area. Then the map was digitized in GIS software to show hot spots in Ushera Darra. See Annex III.

12. Recommendations

- Custodian Departments of Project area should take immediate steps with the participation of local user community to stop illicit cutting and overgrazing. In this regard, a long-term mutual planning and collaboration is needed at the time. WWF could play the role of a facilitator to initiate such a crucial dialogue
- A holistic awareness programme for different target groups must be developed
- The valley has a great potential of producing fruits but very little attention has been paid to this sector. There is a need to build the capacity of local people in horticulture practices, which will improve their livelihood and will reduce their dependency on forest resources
- Most of the people in the area are still practicing the conventional methods of using fuelwood. Keeping in view the lesson learned from Galliat, fuel-efficient technology should be introduced in the area
- To build the capacity of the local people and develop their interest in growing tree species and medicinal plants, demonstration plots must be established at every Union Council level
- There is a need to build the capacity of other NGOs/CBOs in the area regarding the conservation of natural resources including SYWO

Annex I. Location Map of Ushera Darra



Annex-II Indigenous Knowledge regarding Medicinal Plants used by Local Community of Ushera Valley, District Dir

1. Introduction

The upper parts of NWFP are rich in forest resources: however, their unsustainable uses have led to a degraded environment and eroded forest landscapes. The situation is particularly bad in upper Dir where very few forest stands are left in original shape.

Although the Forest Department is there to help manage the forest resources, the land tenure and resource ownership issues have led to certain conflicts that are contributing to resource degradation.

Ushera Valley is situated in Upper Dir and can be located on its easting and northing as from 72° 16' to 72° 50' and from 35° 06' to 35° 16'. The valley is bound by Ganshal, Sheringal, Patrak and Kalkot in the north, Darora, Nehag, Dara and Biha in the south, Lalko, Jaba, Chambar, Banda (Bahrain Swat) in the east and Gandegar, Serai, Bibiwar in the west. Main town of the Valley, Darora is 48 km from Timeragara. The tribes of Pinda Khel, Sultan Khel and Miangan are living in the Ushera Valley. Every village has small hamlets and forest area around. Saidgai Dhand, a famous lake is located adjacent to Gorkohi forest. Namchard is a beautiful waterfall and a barrier to fish movement upstream in the area. People of the area are generally living below the poverty line with extremely low literacy rate. Although the valley is well forested and supports sub-tropical scrub, moist temperate and alpine types of forests, there is no well-defined forest ownership. About 70% of the households live transhumant lifestyle. They take their livestock to sub alpine and alpine pastures from May to September. Most of the people have transitional summerhouses in the alpine ranges. Apart from the local livestock, nomads bring around 10,000 animal heads to alpine meadows during summer months. The valley is home to a number of wildlife species including mammals such as Snow leopard (*Uncia uncia*), Common leopard (*Panthera pardus*), Black bear (*Salenarcetos thibetanus*), Musk deer (*Moschus moschiferus*) and Wolf (*Cannis lupus*), Yellow-throated marten (*Martes flavigula*), Red fox (*Vulpes vulpes*), Pika (*Ochotona roylei*), Golden marmot (*Marmota caudata aurea*) and Rhesus monkey (*Macaca mulatta*). Himalayan monal pheasant (*Lophophorus impejanus*), Himalayan snow cock (*Tetraogallus himalayensis*), Snow partridge (*Lerwa lerwa*) and Koklass pheasant (*Pucrasia macrolopha*) are some of the key bird species found here.

With limited livelihood option, extraction of timber from forests to earn livelihood is major activity in the area. In addition, local community heavily depends on forests for fuel wood for cooking and heating. The green landscape with waterfalls and streams of crystal clear water glorify the valley. The high altitude lake of Saidgai is additional to the aesthetics here. Although, local people take benefit of the aesthetic value of the valley by visiting it, there is huge

potential of exploiting it as a focus for tourism at national level. Forests of the valley offer medicinal plants and other non-timber forest produce as livelihood option. However, its extraction on sustainable commercial levels needs organized harvesting, processing and marketing. The local community, if motivated and trained in its trade, would be benefited. This project was proposed to promote alternate livelihood opportunities in Usherai Valley and motivate local communities for conservation of their forest resource, vital to their sustainability in the area.

2. Objective

One of the objectives of this project to document the indigenous knowledge on local people, which is eroding gradually.

3. Methodology

A total of four trips were scheduled according to the blooming periods of the plants, during November 05 to August 06. Beside this the field staff of SYWO was collecting the data throughout the duration of the project. In each trip specimens of complete plants and shoots from shrubs and trees were collected from different locations of research area. The plants were tagged on spots. Local name, use and method of uses were asked from local aged people and local hakims.

After completion of the field work some of the unidentified specimens were brought to the Botany Department, University of Peshawar for identification. The specimens were arranged properly in blotting papers and old newspapers. The identified specimens were confirmed from flora of Pakistan (Steward, 1972; Nasir and Ali 1971 - 1995)

4. Results and Discussions

4.1. Medicinal Plants of Ushera Dar

The important and locally collected plants, from different parts of the project area were 30 species belonging to 25 families. Locally these plants are used in recipes for various diseases. Table-1, showing list of plants.

Table-1 List of Plants

S. No	Scientific Name	Local Name	Family	Part Use	Uses
1	<i>Adiantum venustum</i>	Biausha	Pteridaceae	Whole Plant	Measles, toothache, eye troubles
2	<i>Berberis lycium</i>	Korai	Berberidaceae	Fruit, Roots bark	Blood purification, Sore throat, pile, tonic
3	<i>Bergenia ciliata</i>	Kukarpanra	Saxifragaceae	Roots	Itching, diarrhea, abdominal pain, external wound
4	<i>Bunium persicum</i>	Zeera	Apiaceae	Seed and bulb	Used as spice, headache
5	<i>Calotropis procera</i>	Spulmay	Asclepiadaceae	Bark, root bark	Itching, Stomach infection, cholera, Gum ache,
6	<i>Cannabis sativa</i>	Bhung	Cannabiaceae	Leaves, Stem	Shoulder ache, narcotic
7	<i>Chenopodium mural</i>	Skha Botay	Chenopodiaceae	Whole Herb	Abdominal Pain, worm expulsion
8	<i>Coriandrum sativum</i>	Dhanya	Umbelliferae	Root, Leaves	Cholera, nervous disorder, diarrhea, blood purification, itching
9	<i>Corydalis govani</i>		Fumariaceae	Root Stock	Roots are used for dandruff and enlarge hairs
10	<i>Datura viscosa</i>	Datura	Solanaceae	Young leaves, seeds	Earache, narcotic, antiseptic
11	<i>Dodonaea viscosa</i>	Ghuraskay	Sapindaceae	Leaves, Seeds, Wood	Mouth infection
12	<i>Galium aparine</i>	Galion	Rubiaceae	Whole Plant	Blood purification

13	<i>Geranium wallichiana</i>	Srazaila	Saxifragaceae	Roots	Worts
14	<i>Indigofera trifoliata</i>	Ghuraiji	Leguminosae	Roots	Abdominal Pain
15	<i>Juglans regia</i>	Ghus/Dandasa	Juglandaceae	Bark	Used as tooth ache and teeth cleaner
16	<i>Lepidium sativum</i>	Alum	Brassicaceae	Leaves	Diarrhea, Fever, Abdominal Pain
17	<i>Mentha longifolia</i>	Podina	Lamiaceae	Leaves	Stimulant, cooling medicine, headaches
18	<i>Morchella esculenta</i>	Gujai	Helveliaceae	Whole Fungi	An important market item. Used as food
19	<i>Paeonia emodii</i>	Mamaikh	Paeoniaceae	Roots	Backache, bleeding stoppage, fever, wound
20	<i>Plantago major</i>	Barthung	Lamiaceae	Seeds, Leaves	Constipation, Diarrhea, urinary bladder infection
21	<i>Plectranthus regosus</i>	Sparkay	Lamiaceae	Leaves	Sore throat, cough, Cattle increase milk yield
22	<i>Primula denticulata</i>	Mamera	Primulaceae	Flower, Rhizome, leaves	Eye troubles, wound, hair tonic
23	<i>Quercus ilex</i>	Sairay	Fagaceae	Bark	Dysentery, hair color, wound
24	<i>Ricinus communis</i>	Harhanda	Euphorbiaceae	Oil from Seeds	Wound, Constipation
25	<i>Rubus fruticosus</i>	Karwara	Rosaceae	Leaves, berries	Diarrhea
26	<i>Rumex hastatus</i>	Tharukay	Polygonaceae	Whole Plant	To stop bleeding, stomach troubles
27	<i>Skimmia anquetilia</i>	Nazar Para	Rutaceae	Leaves	It is believed that smoke from leaves repel evil spirits. Also used in curing small pox
28	<i>Solanum nigrum</i>	Kachmacho	Solanaceae	Fruit	Itching, Jaundice, worm, Kidney stone
29	<i>Urtica dioica</i>	Sizunkay	Urticaceae	Whole Herb	Abdominal Pain
30	<i>Viola indica</i>	Banufsha	Violaceae	Whole Herb	Sore throat, Jaundice, Diarrhoea

4.2. Recipes Used In Local Medicines

Following are the some of recipes used by the local community of Ushera Darra, Dir.

1. Major component: *Adiantum venustum*

Constituent component: Adiantum (whole plant) +water

Method of preparation: Boil Adiantum in water and then cool down, wash eye with this recipient. It can also use for tooth ach, head, cough. These recipes are use for measles, tooth ach and eye trouble

2. Major component: Berberis lyceum

Constituent component: Berberis lyceum (fruit) + water +sugar (according to need).

Method of preparation: Take water and put ripen fruit in it, add sugar according to need. Shake well and then filter, used it according to the need. It is effective for blood purification.

3. Major component: *Berberis lyceum*

Constituent components: Berberis lyceum (root) + water + sugar.

Method of preparation: Grind dried roots of berberis and filter the grinded power eat it with before sleeping. Since it is bitter in test, so use sugar for good taste. It is effective for pain sore throat, jaundice, piles, and eye clarification.

4. Major components: *Bergenia ciliata*

Constituent Components: Bergenia + butter

Method of preparation: Take dried roots of rhizomes of bergenia and crush them, make its powder and mix butter and use it at night time before sleeping. It is useful for external wound as poultice.

5. Major components: *Bergenia ciliata*

Constituent components: Berbengia (whole plant (13 grams) + water (200 grams)

Method of preparation: Take fresh plant of *Bergenia* and put it in 200 water, drink 28 grams of the same water for seven days before food. It is effective for abdominal worm.

6. Major components: *Calotropis procera*

Constituent components: *Calotropis* (milk) + lahori salt 26 gram + HCL (little amount).

Method of preparation: Take lahori salt 26 gram put it in earthen pot, add calotropis milk so that the salt dipped into it, cover earthen pot mouth and heat up, then grained and use the powder externally for gum bleeding with small amount of HCL. It is effective for gun bleeding and ach.

- 7. Major components:** *Calotropis procera*
Constituent components: *Calotropis* (seed) + 3 gram + red chilli (seed) 18 grams + opium 6 grams
Method of preparation: Grind these constituents combined and make it table, use 1-2 table with one teaspoon of ginger and half cup of onion water, if ginger is not available use onion water only, if it is not available, then use syrup of sugar and citrus medica water. It is useful for cholera.
- 8. Major component:** *Chenopodium mural*
Constituent components: *Chenopodium* + water
Method of preparation: Grind dried plants of chenopodium add its powder to water dissolve, use it (1+1+1) time in a day. It is useful for abdominal pain.
- 9. Major components:** *Coriandrum sativum*
Constituent components: *Coriandrum sativum* (water) + honey + ginger (water).
Method of preparation: Extract water from unripen fruit of criandrum to it add ginger water and honey to it and put it in a bottle in open atmosphere for one week, use one tea spoon (1+1+1) in day. It is effective for expulsion of gases, mucous expulsion, itching, nervous disorder, measles, diarrhea, cholera and purification.
- 10. Major components:** *Dodonaea viscosa*
Constituent components: *Dodonaea* (leaves) + *Brassica campestris* (oil).
Method of preparation: Leaves and brunt and ash obtained, mixed with brassica oil, make poultice. It is effective for external wounds and as poultice and animals mouth infection.
- 11. Major components:** *Datura viscosa*
Constituent components: *Datura* (juice) + honey (equal amounts).
Method of preparation: Extract milk of lives and add it to honey, use half yea spoon at night time before sleeping. It is effective for worm killing.
- 12. Major components:** *Galium aparine*
Constituent components: *Galium* + water.
Method of preparation: Take leaves of gallium and put it in water, boil then cool down and use this water in tea cup for sterile women to birth.
- 13. Major component:** *Geranium wallichiana*
Constituent components: *Geranium* + water (flour).
Method of preparation: Take dried roots of geranium make its powder, mix this powder with weat flour and add small amount of water to it make tables and use it (1+1) time in day time with water. It is effective for fever and external wounds.

14. Major component: *Indigofera trifoliata*
Constituent components: Indigofera +water
Method of preparation: Take indigofera roots and put them in water and boil it then cool down and used according to the need. It is use against abdominal pain.

15. Major component: *Juglans regia*
Constituents' components: *Juglans regia* (stem bark) + water.
Method of use: Peel of stem barks and put it in water then boiled. Cool down it, gargle with it (1+1) time in day. it is effective for sore throat.

16. Major component: *Lepidium sativum*
Constituent component: *Lepidium sativum* (fruit) 3gram +water one glass
Method of preparation: Put fruit in water and heat up then cool down, use this water in tea cup (1+1) time in day. It is effective for abdominal pain.

17. Major component: *Mentha longifolia*
Constituent Component: Mentha (leave) + curd
Method of preparation: Grained leaves of menthe make it powder and mix it with crud use according to the need. These recipes are use for fever, diarrhea, dysentery, abdominal pain and vomiting.

18. Major component: *Paeonia emodi*
Constituent components: Paeonia (Root) + Ghee + Flour + Ghur
Method of preparation: Grind dried roots and make powder, mix this powder with flour add ghur according to the need; make sweet cakes cooked property in ghee. It is effective for backache, stoppage of monthly bleeding in women, also use in poultice form external wound, bowel complaints and fever.

19. Major component: *Plantago major*
Constituent component: *Plantago major* seed + honey
Method of preparation: Take dried seeds of plantago and mix it with honey and use. It is effective for constipation.

20. Major component: *Plectranthus regosus*
Constituents of components: *Plectranthus regosus* (leaves) + water
Method of preparation: Extract juice from leaves and mix it with water and shake well. It is used in case of children for cough. These recipient are used for sore throat, cough in case of children.

21. Major component: *Quercus ilex*
Constituents Component: Quercus (endosperm of nut) + water + flour
Method of Preparation: Grind dried endosperm of nut and add water and flour to it and make its bread. It can use for dysentery and diarrhea.

22. Major component: *Quercus ilex*
Constitute Components: Quercus (bark) + Water
Method of preparation: Peel off bark and wash away it in water; this water gives black color to hairs. These recipes can use for dysentery, diarrhea wound and as hair color.

23. Major Components: *Ricinus communis*
Constituent components: Ricinus oil + water
Method of Preparation: Retract oil of the Ricinus seed and add with water. It can use against constipation mucous expulsion, worms expulsion.

24. Major components: *Rubus fruitcosus*
Constituent Components: Otogia Limbata (inflo) + rubus (leaves) indegofera (Leaves) + myrsine (leaves) + water.
Method of preparation: Take these constituent components in equal amount and put them in water and boil them, then cool down and filter, use (1+1+1) times in a day. It is effective diarrhea.

25. Major component: *Rumex hastatus*
Constituent Components: Rumex (Plant) + Flour
Method of preparation: Crush fresh leaves and add little amount of flour to it, it can be use according to need. It is use for external wounds to stop bleeding. This recipe is use for wound to stop bleeding, stomach troubles and to relive poisons action of datura.

26. Major components: *Solanum nigrum*
Constituent Components *Solanum nigrum* (leaves) + water (10:7)
Method of preparation: Cook it and eat with maze of wheat bread, use it (1+1) time in a day. It is useful for liver disease

27. Major components: *Urtica dioica*
Constituent components: Urtica + water
Method of preparation: Take leaves and dried roots of urtica and crush them, put the powder in water and dissolve, use this water. (1+1) time in a day. It can be use for abdominal pain.

28. Major components: *Viola indica*
Constituent components: Viola flower 10 gm + cassia fistula 10gm + fennel fruit 3gm + Prunus amygdalus (oil) 10gm + water 4 cups
Method of preparation: Mix all these constituents and put in water and heat up them, when water start evaporation, stop heating and cool down, filter it and add almond oil and sugar and use. 1 cup 2 times a day. It is effective for abdominal pain, constipation, intestinal aching and jaundice, in aged people. It can be use for respiratory trouble.

Some Important Medicinal Plants of Ushera Darra



Bergenia ciliata



Adiantum venustum



Cannabis sativa



Chenopodium murale

Annex III Map Showing Hot Spots in Ushera Darra

