

*Full Length Research Paper*

# People preferences and use of local medicinal flora in District Tank, Pakistan

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The traditional uses of medicinal plants in healthcare practices are providing clues to new areas of research and hence its importance is now well recognized. However, information on the uses of indigenous plants for medicine is not well documented from many rural areas of Pakistan including district Tank. The study aimed to look into the diversity of plant resources that are used by local people for curing various ailments. Questionnaire surveys of 375 respondents, participatory observations and field visits were planned to elicit information on the uses of various plants. It was found that 41 plant species were commonly used by the local people for curing various diseases. Thirteen of them were frequently told and three of them *viz. Citrullus colocynthis, Withania coagulans* and *Fagonia cretica* were the ever best in the area. In most of the cases (31%) leaves were used. The interviewees mentioned various plant usages. Those most frequently reported had therapeutic value for treating fever, rheumatism, diarrhea, asthma and piles. The knowledge about the total number of medicinal plants available in that area and used by the interviewees was positively correlated with people's age, indicating that this ancient knowledge tends to disappear in the younger generation and existing only in the elderly persons of age group 60 - 80 of years.

**Key words:** Ethnobotany, medicinal plants, people preferences, conservation.

## INTRODUCTION

Tank lies on the boundary with South Waziristan agency hence it is called Tank (Tukk). Tank lies from 31°15' to 30°31' N latitudes and 70°22' E longitudes. It has an area of 409191 acres (1679 square km<sup>2</sup>). It is bounded by FR Jandula on the North West, District D.I. Khan on the North and on the West by South Waziristan agency and by District Lakki Marwat on the East. To the extreme of its east lie the ranges of Sheikh Baden and Kohe Suliman on the west. The altitude varies from 260 to 300 m above the sea level. The population mostly depends on agriculture. Ethnomedicinal explorations play vital role in bringing to light information about such plant species from our rich flora that can be source of safer and cheaper potent drugs for the benefit of mankind. Ethnobotanical studies of different areas of Pakistan has been carried out by many workers in this field such as (Shinwari and Gilani, 2003; Ahmed et al., 2004; Badshah et al., 2004; Durrani and Manzoor, 2006; Shah et al.,

2006; Hussain et al., 2006; Ahmed et al., 2006; Hussain et al., 2007; Ibrar et al., 2007; Ahmed et al., 2007; Hussain et al., 2008; Khan and Khatoon, 2008; Sardar and Khan, 2009; Qureshi et al., 2009). However, information on the uses of plants as traditional medicines has not been documented from different sectors of the district. Keeping this in view, the present study was initiated, with an aim to document the knowledge of rural people and folklore on the utilization of medicinal plants in remote areas of district Tank.

## MATERIALS AND METHODS

In order to document the utilization of indigenous medicinal plants, survey was carried out during the year, 2007 - 2009 in the remote areas of district Tank Pakistan. The survey was spread across the seasons so as to get maximum information. The information on medicinal uses of the indigenous plants have been described after gathering information from general local people, experienced aged rural folk, traditional herbal medicine practitioners and local herbal drug sellers and concluded them by consulting literature. A total of 375 inhabitants from 15 villages were interviewed. The randomly selected respondents of different ages from about 20 years and

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**Table 1.** Table level of knowledge by age and education group of medicinal plant in (%).

Age group	Up to 2	3 - 4	+5	Total
Up to 20	3	-	-	3
21 -40	10	7	-	17
41 - 60	5	5	40	50
61 - 80	-	2	28	30
81+	-	0	0	0
Total	18	14	68	100
<b>Education</b>				
Illiterate	2	10	23	35
Primary	3	6	18	27
Middle	5	5	13	23
Matric	5	-	-	5
FA/ FSc	4	-	3	7
BA /BSc	-	2	-	2
MA/MSc	1	-	-	1
Total	20	23	57	100

above were interviewed in local languages, that is, sariki and Pashtoo.

A semi structured questionnaire was used to elicit information from the resource persons using standard methods (Hussain et al., 2005) and (Hussain and Badshah, 2006). Information on local name of the plant, plant parts used for curing disease their recipes and mode of administration were recorded (Hussain et al., 2008; Qureshi et al., 2009; Durani and Hussain, 2005). Plants collected during the surveys were identified with the help of published flora of Pakistan (Ali and Qaisar, 1995, 2008) and by comparing voucher specimens with identified herbarium collections in the herbarium, Department of Botany, University of Peshawar, Pakistan which is an internationally recognized herbarium known by acronym PHU. From the collected data a list of plants of different families with their traditional uses, plant part used, their recipes and mode of administration is prepared.

## RESULTS

### Knowledge and ranking of the medicinal plants

A total of 375 respondents belonging to various age groups were interviewed. The majority of the respondent were in the age group of 41 - 60 (50%) and 61 - 80 (30%) and were mostly illiterate (35%) or with primary education (27%) were more knowledgeable than younger age groups. The majority of the respondent (68%) knew at least 5 medicinal plants (Table 1).

### Listing of the medicinal plant

The respondent although identified a total of 41 species (Table 2) of medicinal importance. Of these, eleven species including *Citrullus colocynthis*, *Fagonia cretica*, *Withania coagulans*, *Periploca aphylla*, *Peganum*

*harmalla*, *Salvadora oleoides*, *Solanum surstense*, *Calotropis procera*, *Suedsa fruticosa*, *Alhagi maurorum* and *Malva parviflora* were to be used in the daily medicines. *C. colocynthis*, *F. cretica* and, *W. coagulans* were listed respectively by 100, 90 and 70% of the respondents. All these species were ranked into first three positions. *P. aphylla*, *P. harmalla* and *Salvadora oleoides* were the second frequently useful plant respectively by 65, 60 and 50% of the interviewee. They were listed up to 5 positions. *Solanum suratense*, *C. procera* and *S. fruticosa* were also popular remedies as they were listed by 50, 45 and 30% of the respondent respectively. *Alhagi maurorum* and *Malva parviflora* were recommended by less than 20% of the interviewee (Table 3).

### Ranking the best medicinal plants

The local respondents and health practitioners were asked to priorities the three best species in the area (Table 3). *C. colcinthis*, *W. coagulanse* and *F. critica* were considered as the most valuable medicinal herb respectively by 100, 90 and 80% of the users.

### Criteria for considering the best medicinal plants

#### *Citrillus colocyntis*

*Citrillus colocyntis* was vetted as the most preferred medicinal plant by 100% of the respondents. The criteria used were treatment of constipation (50%) used as biliousness (30%) and relieving of stomach pain (by20%) of the respondent (Table 4).

**Table 2.** List of the medicinal plant of District Tank.

No.	Botanical name	Local name	Family
1	<i>Amaranthus viridis</i> L.	Ganar	Amaranthaceae
2	<i>Allium cepa</i> L.	Piaz	Liliaceae
3	<i>Alhagi maurorum</i> Medic	Thanda	Papilionaceae
4	<i>Aerva javanica</i> (Burm. f.) Juss. ex J.A. Schultes	Sperai	Amaranthaceae
5	<i>Anagalis arvensis</i> L.	Gul boti	Primulaceae
6	<i>Achyranthes aspera</i> L.	Kutti boty	Amaranthaceae
7	<i>Allium sativum</i> L.	Wozha	Liliaceae
8	<i>Chenopodium album</i> L.	Sarmay	Chenopodiaceae
9	<i>Chenopodium murale</i> L.	Tora sarmay	Chenopodiaceae
10	<i>Convulvulus arvensis</i> L.	Mal parwati	Convulvulaceae
11	<i>Cymbopogon jawarancusa</i> (Jones) Schult	Sargharay	Poaceae
12	<i>Citrolus colocynthis</i> (L.) Schrad	Ghata maraghone	Cucurbitaceae
13	<i>Capparis decidua</i> (Forssk.) Edgew	Kreta/ kirrha	Capariaceae
14	<i>Euphorbia helioscopia</i> L.	Paparay	Euphorbiaceae
15	<i>Ficus carica</i> L.	Anger	Moraceae
16	<i>Fagonia cretica</i> L.	Spelaghzay/ dhaman	Zygophyllaceae
17	<i>Melilotus parviflora</i> Desf	Shinji	Papilionaceae
18	<i>Malvestrum coromendelianum</i> (L.) Garcke	Tikaley	Malvaceae
19	<i>Medicago denticulate</i> Mill	Shpathlary	Amaranthaceae
20	<i>Malva parviflora</i> L.	Pachkay	Malvaceae
21	<i>Mentha sylvestris</i> L.	Valanai	Labiatae/ lamiacea
22	<i>Menthe viridis</i> L.	Podina	Labiatae
23	<i>Ocimum basilicum</i> L.	Babaray	Labiatae/Lamiaceae
24	<i>Periploca aphylla</i> Dcne	Barara	
25	<i>Plantago lanceolata</i> L.	Chota lablabo	Plantaginaceae
26	<i>Plantago major</i> L.	Ghat lablabo	Plantaginaceae
27	<i>Peganum harmalla</i> L.	Spand/ spelanay	Zygophyllaceae
28	<i>Rumex dentatus</i> L.	Lablabo	Polygonaceae
29	<i>Ricinus communis</i> L.	Randun	Euphorbiaceae
30	<i>Salsola foetida</i> Del.ex Spreng	Lanrhay	Chenopodiaceae
31	<i>Salvadora oleoides</i> Dcne	Plaman/plawan	Salvidoraceae
32	<i>Solanum suratense</i> Burm.f	Wara maraghune	Solanaceae
33	<i>Tribulis teristris</i> L.	Maklinday	Zygophyllaceae
34	<i>Tamarix aphylla</i> (L.) Karst	Ghaz	Tamaricaceae
35	<i>Withania coagulans</i> Dunnal	Shapianga / khamazora	Solanaceae
36	<i>Withania sominefera</i> (L.) Dunnal	Kutilal	Solanaceae
37	<i>Zizyphus mouratiana</i> Lam	Bera	Rhmaceae
38	<i>Acacia nilotica</i> (L.) Delile	Kikar	Mimosaceae
39	<i>Calotropis procera</i> subsp. <i>hamiltonii</i> (Wight) Ali	Spulmaka	Aesclipidiaceae
40	<i>Equsetum arvense</i> L.	Bandokay	Equitaceae
41	<i>Suaeda fruticosa</i> Forssk. ex J. F. Gmelin	Toor lanrhay	Chenopodiaceae

***Withania coagulans***

*W. coagulans* ranked as the next best medicinal plant by 90% of the interviewee because of its digestion nature (by 55%), as cooling agent (by 30%) and due to its effectiveness against constipation (by 10%) of the locals (Table 4).

***Fagonia cretica***

*F. cretica* was ranked as the third best medicinal herb. It was considered as the best plant owing to its ability to care gastric trouble (55%) expulsion of worm (by 30%) and its usefulness in blood purification (by 15%) (Table 4).

**Table 3.** Listing position of medicinal plants by local in (%) in District Tank.

S/N	Species	Total	Ranking order				
			1	2	3	4	5
1	<i>Citrullus colocynthis</i> (L.) Schrad	100	80	20	-	-	-
2	<i>Fagonia cretica</i> L.	80	60	20	-	-	-
4	<i>Withania coagulans</i> Dunal	90	58	-	32	-	-
5	<i>Periploca aphylla</i> Dcne	70	25	25	-	10	10
6	<i>Peganum harmalla</i> L.	65	-	33	20	-	12
7	<i>Salvadora oleoides</i> Decne	60	5	30	-	10	15
8	<i>Solanum suratense</i> Burm.f	50	15	-	30	5	-
9	<i>Calotropis procera</i> subsp. <i>hamiltonii</i> (Wight) Ali	45	-	40	-	-	5
10	<i>Suaeda fruticosa</i> Forssk. ex J. F. Gmelin	35	-	-	10	20	5-
11	<i>Alhagi maurorum</i> Medic	15	-	-	15	-	-
12	<i>Malva parviflora</i> L.	5	-	-	-	5	-

**Table 4.** Criteria used for considering the best medicinal plant in (%).

Criteria	Name of species		
	<i>Citrullus colocynthis</i> (L.) Schrad	<i>Withania coagulans</i> Dunal	<i>Fagonia cretica</i> L.
Gastric trouble	-	5	55
Elimination of worm	-	-	30
Blood purification	-	-	15
Help in digestion	-	55	-
Cooling agent	-	30	-
Constipation	50	10	-
Biliousness	30	-	-
Jam is prepared for stomach pain	20	-	-

### Folk uses of the medicinal plants

The scientific, local names, plant parts local drug preparation, diseases treated and administered of each of the reported medicinal plants briefly discussed as follows:

*Acacia nilotica* (Family Mimosaceae; Local name; kikar). Fresh roots extract used as narcotic, known as Desi sharab (local bear). 15 g of the fresh leaves are put in hot water for 12 h and thus a glass of sharab is prepared; 4 g of gum is taken as aphrodisiac with a glass of water once a day; branches are used as a miswak in germicidal activities for cleaning teeth. *Achyranthus aspera* (Family Amaranthaceae; Local name unknown). The roots are boiled in water and taken half tea of cup twice a day for expulsion of kidney stone. Leaf paste is useful against bee sting; decoction of fruit is given for tooth and stomachache. *Aerva javanica*. Family Amaranthaceae; Local name Sperai). Relieve headache and protective against rheumatism. *Alhagi maurorum* (Family papilionaceae; Local name; Thandha). The exudation of leaves and branches is used once a day to purify blood and as expectorant; 20 g dried roots are

crushed into powder 2 g once a day for two weeks in water is thought to be useful for kidney troubles.

*Allium cepa* (Family Alliaceae; Local name; Piaž ). The onion bulb wrap in cloth is worn like a necklace to treat whooping cough. It is also used as spices and condiments. *Allium sativum* (Family Alliaceae; Local name; Wozha). Small piece of *A. sativum* chewed twice a day to reduce blood pressure. It is also used as laxative, digestive and carminative.

*Amaranthus viridis* (Family Amaranthaceae; Local name; Banar). Seeds and leaves are crushed with half weight of sugar. A tea spoonful of this mixture is given 4 times a day with black tea to children for curing constipation. *Anagalis arvensis* (Family Primulaceae; Local name; Ghandi boty). The whole plant is crushed into powder after drying. 2 gm of the powder with 5 gm of wheat flour is made into past and is used once a day for a week in case of rheumatism and inflammations. *C. procera* (Family Asclipidaceae; Local name; Spalmaka). Sufficient amount of leaves are crushed and used as bandages for rheumatic joints and swelling. Milky latex is used to extract broken thorn and spines. The inflorescences are used as a paste tied over the breast to

light it up.

*Capparis decidua* (Family Canabinaceae; Local name; Kirrah). Young shoots are used as plaster for boils and swelling. Crushed shoots and fruit are made into paste in mustard oil and applied once a day on the swelling. Fruits are also used in pickles, jams and a laxative. *Chenopodium murale* (Family Chenopodiaceae; Local name; Tora sarmay). The whole plant is dried, chopped and boiled in water. The extract thus obtained is given half a glass per day to regulate the abnormal menstrual flow. The leaves decoction is recommended in skin disorders.

*Chenopodium album* (Family Chenopodiaceae; Local name; Sarmay). The shoots are soaked in a glass of cold water for 2 - 4 h and filtered to get extract which is drunk twice a day to remove kidney pain; some time half of this extract is mixed with an equal volume of aqueous extracted from corn hair useful for removing kidney stone. *C. colocynthis* (L.) Schrads (Family Cucurbitaceae; Local name; Ghata maraghone). The fruit powder is mixed with natural honey called tharkh Hallwa. 2 or 3 teaspoonful of this recipe is taken three times a day for curing stomach ache and expel round worm. *C. arvensis* (Family Convulvaceae; Local name; Parwatay). Two teaspoonful of the leaves decoction on empty stomach is taken to regulate the abnormal menstrual flow in women. The leaves paste also applied as poultice as antiseptic.

*Cymbopogon jawarancosa* (Family Poaceae; Local name; Sargarey). The plant is made into paste. 3 g of the paste is boiled in half liter of the water. The decoction thus obtained is given thrice a day to the patient suffering from typhoid fever. It is also believed that its smell keeps the snake away from entrance into houses. *Equisetum arvense* (Family Local name; bandukay). It is locally used against tooth ache. It is directly used as meswak thrice a day and decoction is also pasted when the teeth is aching too much every night for a whole week. *Euphorbia helioscopia* (Family Euphorbiaceae; local name; Parparay). Latex is poisonous and cause swelling. Mature leaves (5 g) are mixed with 3 spoonful of sugar to prepare recipe which is taken twice a day against constipation. A high dose is poisonous.

*F. cretica* (Family Zygophyllaceae; Local name; Spelagzay). It is used by the locals' hakims for abdominal pain and gastric trouble. Twigs and leaves are crushed and half glass of this juice is drunk once a day and effective in gastric trouble and elimination of worm from the abdomen.

*Ficus carica* (Family Moraceae; Local name; Inger). The fruit viz. six fruits twice a day are taken to children suffering from small pox; a few ripened fruits are crushed in a glass of curd. A recipe called anger sharbat is prepared. It is given thrice a day to treat constipation. Unripe fruit when eaten cause sensation of the tongue. To counteract it, leaves of the same plants are rubbed directly on the tongue to get rid of this.

*M. parviflora* (Family Malvaceae; Local name;

Pachkay). The under ground part is washed and crushed into powder. 2 g of the powder is wrapped in butter and is eaten after dinner as sex tonic. It is also used as laxative.

*Malvestrum coromendelianum* (Family Malvaceae; Local name; wada tikalai). Leave are chopped and boiled for half an hour. The filtrate is stored in container and is drunk a cup of tea twice a day for inflammation and wound act as cooling agent. *Medicago polymorpha* (Family Papilionaceae; Local name; shapethlary). Leaves and young shoots are crushed and fried as vegetable very useful for blood pressure patients. It is also used as carminative.

*M. parviflora* (Family Papilionaceae; Local name; Shinji). The whole plant is crushed into powder. 5 gm of the powder is put into dahi as malaise. The shepherds collect its inflorescence and is used against foot athletes. *Mentha sylvestris* (Family Labiateae; Local name; velanay). Equal volume of dried leaves and black tea are boiled in water. A cup of this preparation is taken three times a day to treat cold and fever. The dried powdered leaves and flowers called as nas kusha is taken with or without some sugar three time a day to treat the stomachache. Herbal called velani tea is prepared by boiling tea spoonful of leaves and flower with desired amount of sugar. *M. viridis* (Family Labiateae; Local name; Podina). Used in spices and salad to relieve gas trouble and carminative.

*Ocimum basilicum* (Family Labiateae; Local name; Babary). The inflorescence is crushed and juice extracted thus is taken one teaspoonful thrice a day during cough and cold and especially for flue. *P. harmalla* (Family Zygophyllaceae; Local name; Spanda). About 40 gm crushed seeds are mixed with with a cup of honey. It is taken with meal once a day to treat fever, colic pain and for deforming tape worm. The powdered seeds mixed with mustard oil are rubbed on the on the hairs once a day as antilice agent. *P. aphylla* (Family Apocynaceae; Local name; Barar). Half tea cup of fresh juice is give twice a day to over come constipation. The ash is used as poultice for curing swollen joints and other body parts.

*Plantago lanciolata* (Family Plantaginaceae; Local name; lablaboo). Leaves are crushed and kept in mouth to relieve toothache. Seeds and fruits are drunk as purgative and laxative. *Plantago major* L. (Family Plantaginaceae; Local name; wada lablaboo). One tea spoonful of seeds are added to a glass of water with some sugar and given twice a day for curing dysentery. The recipe is called spergula. The powdered leaves and roots are swallowed with water twice a day to control fever.

*Ricinus communis* (Family Euphorbiaceae; Local name Randan). The seeds are eaten to induce vomiting. *Rumex dentatus* (Family Polygonaceae; local name; Jungle sag). Vegetable of this is recommended for heart patients once a week if available. *Salvadora oleides* (Family Salvedoraceae; Local name; Pleman). Roots and branches are used for making miswak which is used for clearing teeth. Roots bark is used as vesicant. *Sasola*

*foetida* (Family Chenopodiaceae; Local name; Spin lanray). It is used in making "khar" (local name of the recipe) which is used as hair washing to eradicate lice. Leaves and shoots are crushed into powder after drying and stored. Small quantity is used when ever needed. *S. suratense* (Family Solanaceae; Local name; Wara maraghone). The seed are smoked like cigarette to expel toothache. The crushed leaves are tied over the broken organ to relieve pain. A tea spoonful of powdered drug is taken thrice a day with honey to treat cough. The fruit is boiled in water added sugar to prepare jam which is used as health tonic and deworming agent. *S. fruticosa* (Family chenopodiaceae; Local name; Tor lanry). Young shoots are dried and made into powder. 100 g of this is put into water and used daily for a week to eradicate lice.

*T. aphylla* (Family Tamaraceae; Local name; Ghaz). The leaves and young branches are collected in the spring and early winter and prepare as decoction and infusion. It is given internally as decoction and externally as lotion.

*Tribulis teristris* (Family Zygophyllaceae; Local name; Maklenda). Seeds are crushed into powder. 10 g powder mixed with 4 g of maize flour and taken 3 g after each 3 h a day to expel kidney stone. *W. coagulans* (Stock). Dunnel (Family solanaceae; Local name Khamazora). A teaspoonful of dried fruit powder is taken daily with a glass of water for curing stomach ache. Two or three seeds are directly chewed after lunch and dinner against gass trouble.

*Withania sominefera* (Family solanaceae; Local name; Kutlal ). A paste is prepared by mixing powdered roots with oil which is spread on its leaves and used as bandages on swollen joints to treat rheumatism. Sometimes the leaves are directly tied over the affected parts to relieve pain. *Zizyphus mouratiana* Lamk (Family Rhamnaceae; Local name; Bera). The edible fruit is used as blood purifier. The decoction of fruit and bark is taken with a cup of milk to treat constipation and dysentery.

## DISCUSSION

The use of medicinal plants is still socially acceptable and dependable health care system in the traditional societies. The study revealed that the local of district Tank use some 41 medicinal plants in their daily life for curing various diseases. It was observed that young sect of the respondent up to 20 years had poor knowledge than the elderly age group who at least listed more than 9 species. Hussain et al. (2006) and Parveen et al. (2007) reported that people older than 30 years of age respectively in South Waziristan Pakistan and in Thar Desert India were more knowledgeable than the young ones about medicinal plants. Our results also showed that 80% of the respondents were 40 years of age. The growing young population is either less aware about traditional medicinal system or now they have given up

up the use of wild medicine and need quick remedy. Our findings agree with that of Ahmad et al. (2009) who reported 89 plants of therapeutic use in Siran valley.

Likewise Ahmad and Hussain (2008) found that local communities of kallar Kahar) Pakistan have rich tradition of using 29 natural plant resources for their common day ailments. The data recorded during this study were compared with the related literature (Bhattarai et al., 2009; Pattanaik et al., 2008; Ahmed et al., 2006; Tene et al., 2007; Kultur, 2007). It was found that most of these plants were already known for similar uses. However, their recipes and the method of use in the majority of cases are different.

The respondents ranked 11 plants as the most important medicinal plants of the area. The uses were treating gastric trouble, constipation, stomachache, carminative, cough and wound healing as the major disease. The local preparation /recipe were generally named after either diseases cured or after plant used. In other parts of the world too the organoleptic properties such as bitter, sweet, aromatic and sour were used to recognize plants (Wiemann and Heiunch, 1998). *C. colocynthis* with various medicinal uses was ranked as the most important plant of the area by 100% of the respondents. *W. coagulans* and *F. cretica* was respectively the second and third best medicinal by 90 and 80% of the respondents.

The criteria used for ranking the medicinal plant included elimination of worm, blood purification, biliousness, stomachache, gastric trouble and curing constipation. Many other studies have also reported similar findings (Wondimu et al., 2007; Muthu et al., 2006; Mugisha and Origa, 2007; Tardio et al., 2006; Olsen and Larsen, 2003). None of the medicinal plants was observed having sold in the local market. All the plants were used as home remedies. It was emphatically noted during the survey of district Tank that these healers now represent a disappearing oral tradition which is not passed on to the next generation, obviously because the younger generation usually consider the belief in plant remedies a sort of superstition and less effective compared to modern medicine. Moreover, modern medical facilities are now making in roads into these traditional medicines.

So, the folk faith on medicinal plants is now disappearing. It was therefore, considered important that this valuable knowledge regarding folk medicinal uses of plants be recorded before these time tested uses of herbal drugs are lost forever, because of ever dwindling number of medicine men and indiscriminate use of plants, leading to rapid loss of many plant species. Parveen et al. (2007) reported similar result from the rural people of India. The area is basically semi desert (Figure 1), where the protection to medicinal plants is not affordable because of heavy deforestation and overgrazing (Badshah and Hussain, 2009) in plants that are declining should be the primary concern to



**Figure 1.** (a). General view of the desert Tank (b). *Withania coagulans* community.



**Figure 2.** (b) *Salvadora oleoides* used as fuel wood. (a) *Peiploca aphylla*.



**Figure 3.** (a). Deforested *Salvadora oleoides* need for fuel purposes (b) *Salvadora oleoides* plant conservation after heavily browsed by camels.

progress; Hussain and Durani, 2009; Hussain and Badshah 1998). Plant identified as medicinal were frequently used as timber, fire wood and grazing purposes (Figures 2 and 3). With partial improvement of socio-economic status and more facilities the dependence on traditional medicinal plants health care system has

declined and has shifted in favor of modern health care system. There is need to conserve the medicinal resources and knowledge which is declining fast. The result of this study suggests that the medicinal cultivate and protect from being harvested. Further study is needed to see the conservation status of the medicinal

plants in the area.

## Conclusion

It may be concluded from the research that the area has highly unique indigenous flora with different medicinal uses. The vegetation in the area is under the continuous stress of drought and indefensible use. The rural inhabitant of District Tank succeeds to a rich traditional knowledge and documentation of this knowledge has provided new information from the area to the knowledge of ethnobotany. This will not only provide appreciation of this undocumented knowledge but will also serve conservation of such rare, gradually departure important xerophytes species. It will also provide new pharmacological magnitude for better health care of the human being concerning many ailments.

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