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Full Length Research Paper

An over view of people plant interaction in the rangeland of District Tank, Pakistan

Lal Badshah[1]*, Farrukh Hussain[1] and Zaman Sher[2]

[1]Department of Botany, University of Peshawar, Peshawar Pakistan.
[2]Government Degree College, Lahor, District Swabi, Khyber Pukhtunkhwa, Pakistan.

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A total of 205 recorded species had varied local uses for various purposes. These species included 166 herbs, 29 shrubs and 10 trees. The major bulk of 142 species (69.3%) was classified as fodder/forage. The next major utility of plant, that is 49 species (22.4%), was their medicinal uses. There were 36 species used as fuel wood and 11 species for timber purpose. There are 7 species (3.4%) used as edible fruits, 9 species (4.4%) as vegetables and 5 species (2.4%) as condiments. The leaves of *Amaranthus viridis*, *Amaranthus spinosus*, *Amaranthus graecizans, Chenopodium morale* and *Allium sativum* are used as vegetable and condiments. Twelve species (5.8%) were used as roof thatching and 3 species (1.5%) including *Dalbergia sissoo* were used for furniture making. Many plants had multiple uses such as *Acacia modesta, Acacia nilotica ssp. nilotica* and *Zizyphus mauritiana,* etc. which are used as fodder, timber wood, fire wood, medicinal and also had other varied uses. These plants are used in individual form or in combination with other species or other edible items. The major utility of this ecosystem could be pasture; therefore efforts should be directed to improve the area as a rangeland.

Key words: People plant interaction, ethnobotany, conservation, palatability, Pakistan.

INTRODUCTION

Ethnobotany is the study of how people of a particular culture and region make use of indigenous plants. Ethnobotanists explore how plants are used, such as food, shelter, medicine, clothing, hunting, fodder and religious ceremonies. Ethnobotany has its roots in botany, the study of plants. Botany, in turn, originated in part from an interest in finding plants to help fight illness. In fact, medicine and botany have always had close ties. Many of today's drugs have been derived from plant sources. Pharmacognosy is the study of medicinal and toxic products from natural plant sources. At one time, pharmacologists researching drugs were required to understand the natural plant world, and physicians were schooled in plant-derived remedies. However, as modern medicine and drug research advanced, chemically-synthesized drugs replaced plants as the source of most medicinal agents in industrialized countries. Although, research in plant sources continued and plants were still used as the basis for some drug development, fodder for timber and for fuel purposes. Ethnobotany, an area of human ecology, defines the interface between people and their forests, and offers clues needed for rural development based on sustainable yields of forest products. The importance of timber and other fuel tree products from outside forests is attracting increasing attention, to help meet growing demands and reduce the pressure on natural forests and plantations (Focho et al., 2009). Trees growing in open areas seem to have potentials to provide options for rural livelihoods and biodiversity conservation (Pasiecznik et al., 2006). Estimates have shown that about 90% of cooking and heating energy comes from trees (Kirubi et al., 2001). Tank is the southernmost district of NWFP province. District Tank lies from 31°-15' to 30°-31' north latitudes and 70°-22' east longitudes. It has an area of 409191 acres (1679 square km^2). The altitude varies from 260 to 300 m above the sea level. The climate is semiarid. The winter is cold and bracing. The hottest month is June where the mean maximum and minimum temperature is 42 and 27°C, respectively.

Plants used as fuel and timber and other uses were extremely observed (Kappelle et al., 2000; Gutkowska et

*Corresponding author. E-mail: badshahmasood1@gmail.com.

al., 2002; Olsen and Larsen, 2003; Ahmad, 2004; Kala, 2005; Alm, 2006; Okello and Segawa, 2007; Gilani et al., 2003; Hussain and Jan, 2005; Hussain et al., 2006; Wazir et al., 2007; Khan and Khatoon, 2008). No such reference is however, traceable on the plants from District Tank (Mizaraitė et al., 2007) mentioned, and firewood production for home consumption is one of the most important forest owners objectives. Kairiukstis and Jaskelevicius (2003) worked on forest energy resources and their utilization in Lithuania. Farlane (2009) evaluated that urban trees and wood waste offer a modest amount of biomass that could contribute significantly to regional and national bio-economies than it does at present.

MATERIALS AND METHODS

Tank lies from 31°-15' to 30°-31' north latitudes and 70°- 22' east longitudes. It has an area of 409191 acres (1679 square km^2). The altitude varies from 260 to 300 m above the sea level. After a general survey and preliminary discussion, 15 villages were selected. In each village, interview and personal observation were conducted with about 25 randomly selected persons during 2008 to 2009. An open ended questionnaire was used for collecting information. Each respondent was asked to list the plant they use in the area. Taxonomic identification of plants was confirmed in the PUH Department of Botany University of Peshawar and National Herbarium, Islamabad. The plant nomenclature used followed that of Flora of Pakistan (Nasir and Ali, 1971, 1996; Ali and Qaiser, 1996, 2007; Hussaain et al., 2006). The information reported here is purely based on local opinion.

RESULTS AND DISCUSSION

Ethno botanical profile

Plant and animal interactions, including human interaction, can never be separated right from the birth till death as its dependence is obligate. Therefore, plant resources leads to economic wealth of an area. It is the utility and use of plants that make the plants important in the area. In the same context, when the plants of District Tank were analyzed, it was observed that all the 205 recorded species had varied local uses for various purposes (Table 1). These species included 166 herbs, 29 shrubs and 10 trees. The major bulk of 142 species (69.3%) was classified as fodder/forage. This clearly suggests that the area is more suitable for rangeland. Poor vegetation and dry hot condition cannot support agriculture. Most of the recorded species in this study have also been reported as fodder species by other workers (Hussain et al., 2004, 2006; Badshah et al., 2006; Kappelle et al., 2000; Tordio et al., 2006; Arenas and Scarpa, 2007; Maoe et al., 2009; Ajaib et al., 2010). The present findings regarding the similarity in the use of plants as fodder are in agreement with previous studies.

49 species (22.4%) of the plant has medicinal uses. Medicinal plants are invariably used in local health system in these traditional societies. With increasing dependency, there was an increasing exploitation of medicinal plants by local folk, collectors and herbal drug dealers. Grazing, browsing and deforestation of plant resource has caused a drastic decrease in the medicinal flora. The preferred medicinal plants like *Citrullus colocynthis*, *Withania coagulans* and *Periploca aphylla* now grow only within thickets of spiny shrubs or in inaccessible locations. Prior to this study no reference exists on medicinal aspect of this area. However, Gilani et al. (2003), Wazir et al. (2004), Jabar et al. (2006), Ishtiaq et al. (2007), Hussain et al. (2008), Sardar and Khan (2009) and Tareen et al. (2010) reported these plants to be medicinal from other areas of Pakistan. Macia (2004), Okello and Sesgawa (2007), Miah et al. (2009), and Meena and Yadava (2010) listed various plants and their traditional medicinal uses from other parts of the world.

In the investigated area, most of the people are poor and lack basic facilities. The locals mostly depend upon local flora for fuel and timber wood. There were 36 species used as fuel wood and 11 species for timber purpose. These include *Acacia nilotica*, *Salsola foetida*, *Suaeda fruticosa*, *Prosopis cineraria*, *Prosopis juliflora*, *Prosopis farcta*, *Tamarix aphylla*, *T. dioica* and *Zizyphus nummularia* etc. for domestic fuel purpose. There is tremendous pressure for fuel wood on these rangeland due to increasing population and inflect of internally displaced person (IDPS) from Waziristan since 2008. In winter, local people have to keep their homes warm against chilling. Grazing and collection of medicinal plants coupled with fuel wood and timber collection have severally hampered the regeneration capacity of these species. Ibrar et al. (2007) in Shangla, Khan and Khatoon (2007) in Gilgit, Hussain et al. (2008) in Sahiwal et al. (2009) in Narowal and Qasim et al. (2010) in Lasbela reported miscellaneous use of various plants which are in accordance with our findings.

There are 7 species (3.4%) used as edible fruits, 9 species (4.4%) as vegetables and 5 species (2.4%) as condiments. The leaves of *Amaranthus viridis*, *A. spinosus*, *A. graecizans, Chenopodium morale* and *Allium sativum* are used as vegetable and condiments. Twelve species (5.8%) were used as roof thatching and 3 species (1.5%) including *Dalbergia sissoo* were used for furniture making. Many plants had multiple uses such as *Acacia modesta, Acacia nilotica ssp. nilotica* and *Zizyphus mauritiana* etc. which are used as fodder, timber wood, fire wood, medicinal and also had other varied uses. These plants are used in individual form or in combination with other species or other edible items. The details of which are provided under subsequent section on ethnobotany.

The major utility of this ecosystem could be pasture, therefore efforts be directed to improve the area as a rangeland. This will automatically conserve over all vegetation resources. The investigated area is faced with problem like deforestation, overgrazing, and over

Table 1. Economic use classification of Flora of District Tank.

S/N	Plant species	F	M	Fl	T	Fr	V	C	Th	Ft
	Trees									
1.	*Acacia modesta* Wall.	+	-	+	+	-		-	-	-
2.	*Acacia nilotica ssp. nilotica* (L.) Wild. ex Delile	+	+	+	+	-	-	-	-	+
3.	*Dalbergia sissoo* Roxb.	+	-	+	+	-	-	-	-	+
4.	*Eucalyptus globulus* Labill.	-	-	+	+	-	-	-	-	-
5.	*Morus alba* L.	+	-	+	+	+	-	-	-	-
6.	*Morus nigra* L.	+	-	+	+	+	-	-	-	-
7.	*Phoenix dactylifera* L.	+	-	+	+	+	-	-	+	-
8.	*Prosopis farcta* (Banks and Sol.) Macbride.	+	-	+	+	-	-	-	-	-
9.	*Tamarix aphylla* (L.) Karst	+	+	+	+	-	-	-	-	-
10.	*Zizyphus mauritiana* Lam.	+	+	+	+	+	-	-	-	+
	Shrubs									
11.	*Abutilon bidentatum* Hochst. ex A. Rich.	-	-	+	-	-	-	-	-	-
12.	*Aerva javanica* (Burm. f.) Juss. ex J. A. Schult.	+	+	+	-	-	-	-	-	-
13.	*Aerva lanata* (L.) Juss. ex Schult.	+	-	-	-	-	-	-	-	-
14.	*Atriplex griffithii* Moq.	+	-	-	-	-	-	-	-	-
15.	*Calligonum polygonoides* L.	+	-	+	-	-	-	-	+	-
16.	*Calotropis procera* subsp. *hamiltonii* (Wight) Ali	+	+	+	-	-	-	-	+	-
17.	*Capparis decidua* (Forssk.) Edgew.	+	+	+	+	-	-	-	-	-
18.	*Cassia senna* L.	-	+	+	-	-	-	-	-	-
19.	*Celtis eriocarpa* Decne.	+	-	+	-	+	-	-	-	-
20.	*Crotolaria burhia* Buch.-Ham. ex Benth.	-	-	-	-	-	-	-	-	-
21.	*Dodonaea viscosa* (L.) Jacq.	-	-	+	-	-	-	-	-	-
22.	*Ficus carica* L.	-	+	+	-	+	-	-	-	-
23.	*Haloxylon multiflorum* (Moq.) Bunge ex Boiss.	+	--	+	-	-	-	-	-	-
24.	*Kochia indica* Wight	+	-	-	-	-	-	-	-	-
25.	*Melia azedarach* L.			+					-	-
26.	*Nerium indicum* Mill.	-	-	+	-	-	-	-	-	-
27.	*Parkinsonia aculeata* L.	+	-	-	-	-	-	-	-	-
28.	*Periploca aphylla* Decne.	-	+	-	-	-	-	-	-	-
29.	*Periploca calophylla* (Wight) Falc.	-	+	-	-	-	-	-	-	-
30.	*Prosopis cineraria* (L.) Druce	+	-	+	-	-	-	-	-	-
31.	*Prosopis juliflora* Swartz	+	-	+	-	-	-	-		-
32.	*Rhazya stricta* Decne.	-	+	-	-	-	-	-	-	-
33.	*Salsola foetida* Delile ex Spreng.	+	+	+	-	-	-	-	-	-
34.	*Salvadora oleoides* Decne.	-	+	+	-	-	-	-	-	-
35.	*Suaeda fruticosa* Forssk. ex J. F. Gmelin	-	+	+	-	-	-	-	-	-
36.	*Tamarix dioica* Roxb. ex Roth.	-	-	+	-	-	-	-	+	-
37.	*Vitex negundo* L.	-	+	-	-	-	-	-	-	-
38.	*Withania coagulans* (Stocks) Dunal	-	+	-	-	-	-	-	-	-
39.	*Zizyphus nummularia* (Burm. f.) Wight and Arn.	+	-	+	-	+	-	-	-	-
	Herbs									
40.	*Achyranthes aspera* L.	-	+	-	-	-	-	-	-	-
41.	*Alhagi maurorum* Medic.	-	+	+	-	-	-	-	+	-
42.	*Allium cepa* L.	-	+	-	-	-	-	+	-	-
43.	*Allium sativum* L.	-	+	-	-	-	+	+	-	-
44.	*Amaranthus graecizans* L.	+	-	-	-	-	+	-	-	-
45.	*Amaranthus spinosus* L.	+	-	-	-	-	+	-	-	-
46.	*Amaranthus viridis* L.	+	+	-	-	-	+	-	-	-
47.	*Anagallis arvensis* L.	-	+	-	-	-	-	-	-	-
48.	*Anethum graveolens* L.	+	-	-	-	-	-	-	-	-
49.	*Aristida adscensionis* L.	+	-	-	-	-	-	-	-	-
50.	*Aristida cyanantha* Nees ex Steud.	+	-	-	-	-	-	-	-	-
51.	*Aristida mutabilis* Trin. and Rupr.	+	-	-	-	-	-	-	-	-
52.	*Aristida triticoides* Henr.	+	-	-	-	-	-	-	-	-
53.	*Arnebia hispidissima* (Lehm.) A. DC.	-	-	-	-	-	-	-	-	-
54.	*Arnebia guttata* Bunge	-	-	-	-	-	-	-	-	-
55.	*Asphodelus tenuifolius* Cav.	+	+	-	-	-	-	-	-	-

Table 1. Contd.

56.	*Astragalus tribuloides* Delile	+	-	-	-	-	-	-	-	-
57.	*Astragalus amherstianus* Royle ex Benth.	+	-	-	-	-	-	-	-	-
58.	*Avena sativa* L.	+	-	-	-	-	-	-	-	-
59.	*Boerhavia diffusa* L.	+	-	-	-	-	-	-	-	-
60.	*Boerhavia procumbens* Banks ex Roxb.	+	-	-	-	-	-	-	-	-
61.	*Brassica rapa* subsp. *campestris* (L.) Clapham	+	-	+	-	-	-	-	+	-
62.	*Campanula benthamii* Wall. ex Kitamura	+	-	-	-	-	-	-	-	-
63.	*Campanula sulaimanii* E. Nasir	+	-	-	-	-	-	-	-	-
64.	*Cenchrus biflorus* Roxb.	+	-	-	-	-	-	-	-	-
65.	*Cenchrus ciliaris* L.	+	-	-	-	-	-	-	-	-
66.	*Centaurea iberica* Trevir. ex Spreng.	+	-	-	-	-	-	-	-	-
67.	*Centaurea moschata* L.	-	-	-	-	-	-	-	-	-
68.	*Centaurium pulchellum* (Sw.) Druce	+	-	-	-	-	-	-	-	-
69.	*Centaurium spicatum* (L.) Fritsch	-	-	-	-	-	-	-	-	-
70.	*Chenopodium album* L.	+	+	-	-	-	-	-	-	-
71.	*Chenopodium ambrosioides* L.	+	-	-	-	-	-	-	-	-
72.	*Chenopodium murale* L.	-	+	-	-	-	-	-	-	-
73.	*Chenopodium nepalense* Colla	+	-	-	-	-	-	-	-	-
74.	*Chrozophora oblongifolia* (Del.) Adr. Juss. ex Spreng.	-	-	-	-	-	-	-	-	-
75.	*Chrozophora tinctoria* (L.) Raf.	-	-	-	-	-	-	-	-	-
76.	*Cicer arietinum* L.	+	-	-	-	-	-	+	-	-
77.	*Citrullus colocynthis* (L.) Schrad.	+	+	-	-	-	-	-	-	-
78.	*Cleome brachycarpa* Vahl ex DC.	-	-	-	-	-	-	-	-	-
79.	*Convolvulus prostratus* Forssk.	+	-	-	-	-	-	-	-	-
80.	*Convolvulus arvensis* L.	+	+	-	-	-	-	-	-	-
81.	*Convolvulus microphyllus* Sieb.ex Spreng.	+	-	-	-	-	-	-	-	-
82.	*Conyza canadensis* (L.) Cronquist	+	-	-	-	-	-	-	-	-
83.	*Corchorus aestuans* L.	-	-	-	-	-	-	-	-	-
84.	*Coronopus didymus* (L.) Smith	+	-	-	-	-	-	-	-	-
85.	*Cousinia minuta* Boiss.	-	-	-	-	-	-	-	-	-
86.	*Crambe cordifolia* Steven	+	-	-	-	-	-	-	-	-
87.	*Cuscuta reflexa* Roxb.	-	-	-	-	-	-	-	-	
88.	*Cyamopsis tetragonoloba* (L.) Taubert	+	-	-	-	-	-	-	-	-
89.	*Cymbopogon jwarancusa* (Jones) Schult.	+	+	+	-	-	-	-	+	-
90.	*Cynodon dactylon* (L.) Pers.	+	-	-	-	-	-	-	-	-
91.	*Cynoglossum lanceolatum* Forssk.	+	-	-	-	-	-	-	-	-
92.	*Cyprus difformis* L.	-	-	-	-	-	-	-	-	-
93.	*Cyprus rotundus* L.	-	-	-	-	-	-	-	-	-
94.	*Dactyloctenium aegyptium* (L.) Willd.	+	+	-	-	-	-	-	-	-
95.	*Datura alba* Nees	-	-	-	-	-	-	-	-	-
96.	*Desmostachya bipinnata* (L.) Stapf.	+	-	-	-	-		-	-	-
97.	*Dichanthium annulatum* (Forssk.) Stapf.	+	-	-	-	-	-	-	-	-
98.	*Echinochloa colona* (L.) Link.	+	-	-	-	-	-	-	-	-
99.	*Echinochloa crus-galli* (L.) Beauv.	+	-	-	-	-	-	-	-	-
100.	*Eclipta alba* (L.) Hassk.	+	-	-	-	-	-	-	-	-
101.	*Emex australis* Steinh.	-	-	-	-	-	-	-	-	-
102.	*Emex spinosus* (L.) Campd.	-	-	-	-	-	-	-	-	-
103.	*Equisetum arvense* L.	-	+	-	-	-	-	-	-	-
104.	*Eragrostis cilianensis* (All.) Lut. ex F.T.	+	-	-	-	-	-	-	-	-
105.	*Eragrostis minor* Host	+	-	-	-	-	-	-	-	-
106.	*Euphorbia dracunculoides* Lam.	-	-	-	-	-	-	-	-	-
107.	*Euphorbia granulata* Forssk.	-	-	-	-	-	-	-	-	-
108.	*Euphorbia helioscopia* L.	-	+	-	-	-	-	-	-	-
109.	*Euphorbia prostrata* Ait.	+	-	-	-	-	-	-	-	-
110.	*Euphorbia thymefolia* L.	-	-	-	-	-	-	-	-	-
111.	*Fagonia indica* var. *schweinfurthii* Hadidi	+	+	-	-	-	-	-	-	-
112.	*Farsetia hamiltonii* Royle	+	-	-	-	-	-	-	-	-
113.	*Farsetia ramosissima* Hochst. ex Boiss.	+	-	-	-	-	-	-	-	-
114.	*Filago arenaria* (Smoljan.) Chrtek and Holub	+	-	-	-	-	-	-	-	-
115.	*Fumaria indica* (Hausskn.) Pugsley	+	-	-	-	-	-	-	-	-
116.	*Gastrocotyle hispida* (Forssk.) Bunge	+	-	-	-	-	-	-	-	-
117.	*Halostachys belangerana* (Moq.) Botsch.	+	-	-	-	-	-	-	-	-

Table 1. Contd.

118.	*Heliotropium elipticum* Ledeb.	+	-	-	-	-	-	-	-	-
119.	*Heliotropium europaeum* L.	+		-	-	-	-	-	-	-
120.	*Heliotropium ovalifolium* Forssk.	+	-	-	-	-	-	-	-	-
121.	*Hyoscyamus squarrosus* Griffith	-	-	-	-	-	-	-	-	-
122.	*Hypecoum pendulum* L.	+	-	-	-	-	-	-	-	-
123.	*Hypericum perforatum* L.	+	-	-	-	-	-	-	-	-
124.	*Imperata cylindrica* L.	+	-	-	-	-	-	-	-	-
125.	*Juncus bufonius* L.	-	-	-	-	-	-	-	+	-
126.	*Juncus inflexus* L.	-	-	-	-	-	-	-	+	-
127.	*Lathyrus aphaca* L.	+	-	-	-	-	-	-	-	-
128.	*Lathyrus sativus* L.	+	-	-	-	-	-	-	-	-
129.	*Launaea nudicaulis* (L.) Hook. f.	+	-	-	-	-	-	-	-	-
130.	*Malcolmia africana* (L.) R. Br.	+	-	-	-	-	-	-	-	-
131.	*Malcolmia scorpioides* (Bunge) Boiss.	+	-	-	-	-	+	-	-	-
132.	*Malva neglecta* Wallr.	+	-	-	-	-	+	-	-	-
133.	*Malva parviflora* L.	+	+	-	-	-	+	-	-	-
134.	*Malvastrum coromandelianum* (L.) Garcke	+	+	-	-	-	-	-	-	-
135.	*Matthiola incana* (L.) R. Br.	+	-	-	-	-	-	-	-	-
136.	*Medicago minima* (L.) Grufb	+	-	-	-	-	-	-	-	-
137.	*Medicago polymorpha* L.	+	+	-	-	-	-	-	-	-
138.	*Medicago laciniata* (L.) Mill.	+	-	-	-	-	-	-	-	-
139.	*Melilotus indica* (L.) All.	+	-	-	-	-	-	-	-	-
140.	*Melilotus alba* Desr.	+	+	-	-	-	-	-	-	-
141.	*Mentha longifolia* (L.) L.	-	+	-	-	-	-	-	-	-
142.	*Mentha spicata* L.	-	+	-	-	-	-	+	-	-
143.	*Ochthochloa compressa* (Forssk.) Hilu	+	-	-	-	-	-	-	-	-
144.	*Ocimum basilicum* L.	-	+	-	-	-	-	+	-	-
145.	*Oligomeris linifolia* (Vahl.) Macbride	-	-	-	-	-	-	-	-	-
146.	*Oryza sativa* L.	+							-	-
147.	*Oxalis corniculata* L.	+	-	-	-	-	-	-	-	-
148.	*Oxystelma esculentum* (L. f.) R. Brown	+	-	-	-	-	-	-	-	-
149.	*Panicum antidotale* Retz.	+	-	-	-	-	-	-	-	-
150.	*Panicum capillare* L.	+	-	-	-	-	-	-	-	-
151.	*Ifloga spicata* (Forssk.) Sch. Bip.	+	-	-	-	-	-	-	-	-
152.	*Peganum harmala* L.	-	-	-	-	-	-	-	-	-
153.	*Phalaris aquatica* L.	+	+	-	-	-	-	-	-	-
154.	*Phragmites karka* (Retz.) Trin. ex Steud.	-	-	-	-	-	-	-	+	-
155.	*Plantago ciliata* subsp. *lanata* (Boiss.) Rech.	+	-	-	-	-	-	-	-	-
156.	*Plantago lanceolata* L.	+	+	-	-	-	-	-	-	-
157.	*Plantago major* L.	+	+	-	-	-	-	-	-	-
158.	*Poa annua* L.	+	-	-	-	-	-	--	-	-
159.	*Poa infirma* H. B. K.	+	-	-	-	-	-	-	-	-
160.	*Polygonum patulum* M. Bieb.	-	-	-	-	-	-	-	-	-
161.	*Polygonum plebejum* R. Br.	-	-	-	-	-	-	-	-	-
162.	*Polypogon monspeliensis* (L.) Desf.	+	-	-	-	-	-	-	-	-
163.	*Portulaca quadrifida* L.	+	-	-	-	-	-	-	-	-
164.	*Psammogeton biternatum* Edgew.	-	-	-	-	-	-	-	-	-
165.	*Pulicaria crispa* (Forssk.) B.H.	-	-	-	-	-	-	-	-	-
166.	*Ranunculus muricatus* L.	+	-	-	-	-	-	-	-	-
167.	*Ranunculus sceleratus* L.	+	-	-	-	-	-	-	-	-
168.	*Reseda oderata* L.	+	-	-	-	-	-	-	-	-
169.	*Ricinus communis* L.	-	-	+	-	-	-	-	-	-
170.	*Rumex dentatus* L.	+	+	-	-	-	+	-	-	-
171.	*Rumex obtisifolius* L.	+	-	-	-	-	-	-	-	-
172.	*Saccharum bengalense* Retz.	+	-	-	-	-	-	-	-	-
173.	*Saccharum munja* Roxb.	+	-	-	-	-	-	-	-	-
174.	*Saccharum spontaneum* L.	+	-	-	-	-	-	-	-	-
175.	*Schismus barbatus* (L.) Thell.	+	-	-	-	-	-	-	-	-
176.	*Sclerochloa dura* (L.) P. Beauv.	+	-	-	-	-	-	-	-	-
177.	*Setaria verticillata* (L.) P. Beauv.	+	-	-	-	-	-	-	-	-
178.	*Silene conoidea* L.	-	-	-	-	-	-	-	-	-
179.	*Sisymbrium irio* L.	+	-	-	-	-	-	-	-	-

Table 1. Contd.

180.	*Solanum nigrum* L.	+	-	-	-	-	-	-	-	-
181.	*Solanum surattense* Burm. f.	+	+	-	-	-	-	-	-	-
182.	*Sonchus asper* (L.) Hill	+	-	-	-	-	-	-	-	-
183.	*Sonchus oleraceus* L.	+	-	-	-	-	-	-	-	-
184.	*Spergula arvensis* L.	+	-	-	-	-	-	-	-	-
185.	*Spergularia marina* (L.) Griseb.	+	-	-	-	-	-	-	-	-
186.	*Taraxacum officinale* F. H. Wigg.	+	-	-	-	-	-	-	-	-
187.	*Torilis japonica* (Houtt.) DC.	+	-	-	-	-	-	-	-	-
188.	*Trianthema portulacastrum* L.	+	-	-	-	-	-	-	-	-
189.	*Tribulus terrestris* L.	+	+	-	-	-	-	-	-	-
190.	*Tribulus pentandrus* Forssk.	+	-	-	-	-	-	-	-	-
191.	*Tricholepis chaetolepis* (Boiss.) Rech. f.	+	-	-	-	-	-	-	-	-
192.	*Trifolium alexandrianum* L.	+	-	-	-	-	-	-	-	-
193.	*Trifolium repens* L.	+	-	-	-	-	-	-	-	-
194.	*Triticum aestivum* L.	+							-	-
195.	*Typha latifolia* L.	-	-	+	-	-	-	-	+	-
196.	*Typha minima* Funck ex Hoppe	-	-	-	-	-	-	-	+	-
197.	*Urtica pilulifera* L.	+	-	-	-	-	+	-	-	-
198.	*Veronica aquatica* Bern.	-	-	-	-	-	-	-	-	-
199.	*Veronica biloba* L.	-	-	-	-	-	-	-	-	-
200.	*Vicia faba* L.	+	-	-	-	-	-	-	-	-
201.	*Vicia tetrasperma* (L.) Schreber	+	-	-	-	-	-	-	-	-
202.	*Viola stocksii* Boiss.	+	-	-	-	-	-	-	-	-
203.	*Withania somnifera* (L.) Dunal	-	+	+	-	-	-	-	-	-
204.	*Xanthium straumarium* L.	-	-	+	-	-	-	-	-	-
205.	*Zea mays* L.	+	-	-	-	-	-	-	-	-
Total		142	46	36	11	7	9	5	12	3
% age		69.2	22.4	17.5	5.3	3.4	4.3	2.4	5.8	1.4

F = Fodder, M = medicinal, Fl = fuel, T = timber, Fr = fruit, V = vegetable, C = condiment, Th = thatching, Ft = furniture.

exploitation of medicinal and fuel wood species. A plant subjected to multiple pressure viz. grazing, medicinal utility and fuel wood is under immense biotic pressure that arrests its spread and surviving capability. The poor vegetation cover and non productive land has promoted soil erosion that has further deteriorated the habitat. Besides, scientific approach awareness among the local inhabitants encouraged.

The roof of the local mud or brick houses and shelters for livestock are generally made from local material. These include *Typha*, *Capparis* and *Saccharum* etc. The use of plants for roof thatching from adjoining areas has been reported by other workers (Sardar and Khan, 2009; Ajaib et al., 2010; Qasim et al., 2010). The furniture wood consisting of *Dalbergia sissoo* is also valuable source of earning to meet their demands. Some of these plants with similar uses have been reported by Qureshi et al. (2007), Hussain et al. (2004) and Shah and Hussain (2008).

Timber wood harvest from forest resources has become one of the major ecological problems. In the recent ongoing Taliban crises when most of the facilities/resources are not available to the IDPS, the pressure got mounted on woody species for burning and construction material. This has lead to creation of barren areas. Plants such as *Acacia nilotica*, *Tamarix aphylla* and *Zizyphus mauritiana* and *Prosopis farcta* are highly valuable as timber wood with high selling and buying prices.

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