



Study of plant diversity of Karnal District, Haryana, India

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Abstract

This paper presents the result of a study on the diversity of different plant species along with their vernacular names, habit and their occurrence found in Karnal district of Haryana in India. This study is first of its kind conducted in the district showing current status of the plant diversity. In present study, a total of 277 plant species belonging to the 72 families have been recorded from this area. The study also acknowledge the ecological balance is being disturbed due to the very quickly rise in the human population and their increased demand for more utilization of natural resources. Therefore the proper knowledge of plant diversity could play important role in planning for conservation and sustainable use of available resources.

Key-Words: Karnal, Plant Diversity, Taxonomy, Ecological balance

Introduction

India, a land of physical, cultural, social and linguistic diversity endowed by nature with enormous biological diversity. As a result India ranks amongst one of the 12 mega biodiversity countries of the world and consists of 17,000 flowering plant species. It accounts for 8% of the global biodiversity with only 2.4% of the total land area in the world^{1, 2}. In India, Haryana is small, prosperous state and has great place in the history.

Karnal district lies on the western bank of the river Yamuna, which forms its eastern boundary and separates Haryana from Uttar Pradesh. Karnal district lies between 29 09' 50" and 29 50' North and 76 31' 15" and 77 12' 45" East; its height above sea level is around 240 meters. The district has an area of 1,967 km². Karnal district is bordered by Kurukshetra district on its north-west, Jind and Kaithal districts on its west, Panipat district on its south and Uttar Pradesh state on the east and average annual rainfall of Karnal district is 696 mm.

Practically Karnal district remains to be explored from the taxonomic point of view considering changes that took place in last few decades owing to heavy agriculture, urbanization, industrialization and other such factors. Here is an attempt to cover the plant biodiversity from this point of view so as to provide information about the plants according to their current status. "Taxonomy is the science of the description and classification of organism, essential in theoretical and applied biology"³.

Plants represent one of the important element of biodiversity, thus the knowledge of plant species found in the different areas of the world is a pre-requisite to conserve the ecological biodiversity. It helps us to understand the overall structure and function of an ecosystem⁴. For this reason accurate and precise information of the known plant species from a given area is essential. The information is important as it allows us to prevent or avoid the potential chances of biodiversity loss and to plan future policy for the protection of our environment. According to P. K. K. Nair⁵ "taxonomy is an integral component of biodiversity protection, remediation and eco-development". The present study aims to highlight the plant diversity of Karnal district from taxonomic point of view, which in turn will provide important source for use in various other fields of biology in general and botany in particular.

Material and Methods

To carry out work on plant diversity in Karnal district of Haryana in India (Figure 1), first of all, the study area was selected and divided into different regions for the sake of convenience and systematic study. A general survey of the vegetation was made and observed different plants such as herbs, shrubs and trees. Extensive field surveys were conducted in the district during different seasons through regular field visits in order to get maximum representation of the different plant species. During our field visits plant samples were collected and took photograph of particular species from agricultural lands, natural habitats, wastelands, road sides, railway tracks, parks,

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lawns, ponds, river banks and other relevant localities to cover almost all the district in a systematic manner. Identification was done with the help of various floras^{6,7}, and with live specimens in the field itself but when it was not found possible then plant samples were identified in the lab.

Results and Discussion

The present study shows that the plant diversity in the Karnal district is now decreasing to loss and less as compare to earlier studies and loss of plant diversity is not only an ethical tragedy but also a great social, economical and cultural loss. During the present works we have noted 277 plant species belonging to 72 families have been reported in that particular zone, and result of the study are placed in Table—1. In all- total of 152 herbs, 40 shrubs, 15 undershrubs, 57 trees, 7 twinners, 5 climbers and 1 woody climber species have been included (Figure 2). The densest families in the present study are Fabaceae (27), Poaceae (21), Euphorbiaceae (14), Malvaceae (12) and Brassicaceae (11), etc. Some of most common plant species which occurred in study area is *Tectona grandis* (Verbenaceae), *Azadirachta indica*, *Melia azedarach* (Meliaceae), *Ficus benghalensis*, *F. religiosa*, *F. carica* (Moraceae), *Mangifera indica* (Anacardiaceae), *Ailanthus excelsa* (Simaroubaceae), *Murraya koenigii*, *Aegle marmelos* (Rutaceae), *Eucalyptus sp.* (Myrtaceae), *Terminalia arjuna* (Combretaceae), *Polyalthia longifolia* (Annonaceae), *Butea monosperma*, *Delbergia sisso* (Fabaceae), *Cassia fistula* (Caesalpinaceae), *Psidium gunjava*, *Syzygium cumini* (Myrtaceae), *Acacia nelotica*, *Acacia arabica*, *Albizia lebbeck* (Mimosaceae), *Derris indica* (Leguminosae), *Morus alba* (Moraceae), *Zizyphus nummularia* (Rhamnaceae), *Alstonia scholaris* (Apocynaceae) etc. Some plant species are exotic and show dominancy in this area, these are *Parthenium hysterophorus* L. (Asteraceae), *Eichhornia crassipes* Kunth (Pontedericaceae), *Lantana indica* (Verbenaceae) etc. Number of plant species lost is often most widely used measures of diversity depletion. The overall causes of diversity loss are the same as those responsible for land use and surface of land changed. This study also reveals that the ecological balance is being upset by rapid rise of human population with their increased demand for more utilization of natural resources. The existing natural forests were protecting our living environment.

Conclusion

Knowledge of Taxonomy is a great tool for identification of the different plant species. Taxonomic knowledge is crucial to meet the challenges of biodiversity conservation in the 21st century⁸. It is of fundamental importance for understanding biodiversity and ecosystem functioning, as it provides us with the data to explore and describe biodiversity through scientific analysis. The present study provides the basic information about the different plant species, which are currently found in the Karnal district. Such a list could play an important role for the local and regional authorities interested in to conserve this precious phyto-diversity for batter future use of welfare of forcoming generations and sustainable development of the area.

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Fig. 1: Map of Study area

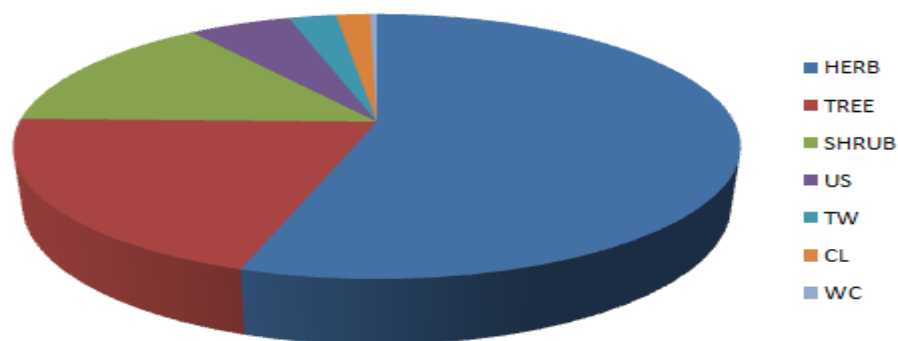


Fig. 2: Distribution of plant species
 Table 1: Plant diversity of the study area

S.No.	Family / Species	Vernacular Name	Habit
1.	ANNONACEAE		
	<i>Artabotrys hexapetalus</i> L.f.		T
	<i>Polyalthia longifolia</i> Sonn.	Ashok	T
2.	RANUNCULACEAE		
	<i>Ranunculus cantoniensis</i> DC.		H
	<i>Ranunculus muricatus</i> L.		H
	<i>Ranunculus sceleratus</i> L.		H
3.	MAGNOLIACEAE		
	<i>Michelia champaca</i> L.	Champa	T
4.	MENISPERMACEAE		
	<i>Cissampelos pareira</i> L.		Tw
	<i>Cocculus pendulus</i> J.R.		Tw
	<i>Tinospora cordifolia</i> Willd.	Giloe	Tw

	<i>Cocclus hirsuta</i> L.		Tw
5.	NYMPHAEACEAE		
	<i>Nymphaea nouchali</i>	Chota Kamal	H
6.	PAPAVERACEAE		
	<i>Argemone Mexicana</i> L.	Satyanasi	H
	<i>Papaver hookeri</i> L.		H
7.	BRASSICACEAE		
	<i>Brassica campestris</i> Linn.	Sarso	H
	<i>Brassica juncea</i> L.	Asli Rai	H
	<i>Brassica nigra</i> L.	Kali Sarso	H
	<i>Coronopus didymus</i> L.		H
	<i>Lepidium stivum</i> L.		H
	<i>Rorripa indica</i> L.		H
	<i>Sisymbrium irio</i> L.		H
	<i>Raphanus stivus</i> L.	Muli	H
	<i>Brassica oleracea</i> var. <i>botrys</i>	Phoolgobhi	H
	<i>Brassica oleracea</i> var. <i>capitata</i>	Bandhgobhi	H
	<i>Nasturtium officinale</i> R.Br.		H
8.	CAPPARACEAE		
	<i>Capparis deciduas</i> L.	Kair	S
	<i>Capparis sepiaria</i> L.	Hins	S
	<i>Capparis zeylanica</i> L.	Hins	S
10.	TAMARICACEAE		
	<i>Tamarix aphylla</i> L.		T
	<i>Tamarix dioica</i> Roxb.	Jhau	T
11.	MALVACEAE		
	<i>Abutilon fruticosum</i>		US
	<i>Abutilon ramosum</i>	Barkanghi	US
	<i>Abelmoschus ficulneus</i>	Jungli bhindi	US
	<i>Malva sylvestris</i> L.		H
	<i>Pavonia procumbens</i>		H
	<i>Sida cordata</i>		US
	<i>Sida cordifolia</i> L.	Bala	US
	<i>Sida rhombifolia</i> L.		US
	<i>Urena lobata</i> L.		US
	<i>Hibiscus rosa-sinensis</i> L.	Gudhal	S
	<i>Gossypium arboretum</i> L.	Rui	S
	<i>Abelmoschus esculentus</i> L.	Bhindi	US
12.	BOMBACACEAE		
	<i>Bombax ceiba</i> L.		T
	<i>Melochia corchorifolia</i> L.	Saimal	T
13.	TILIACEAE		
	<i>Corchorus aestuans</i> L.		H
	<i>Corchorus capsularis</i> L.	Jute	H
	<i>Corchorus olitorius</i> L.		H
14.	ZYGOPHYLLACEAE		
	<i>Balanites roxburghii</i>		H
	<i>Tribulus terrestris</i>	Gokharu	H
15.	RUTACEAE		
	<i>Aegle marmelos</i> L.	Bel	T
	<i>Murraya koenigii</i> L.	Meetha Neem	S

	<i>Murraya paniculata</i> L.		S
	<i>Citrus medica</i> L.	Nimbu	S
16.	MELIACEAE		
	<i>Azadirachta indica</i> A.Juss.	Neem	T
	<i>Melia azedarach</i>	Bakain	T
	<i>Swietenia mahagoni</i>		T
17.	CELASTRACEAE		
	<i>Celastrus paniculatus</i> L.	Halkangni	WC
18.	RHAMNACEAE		
	<i>Zizyphus mauritiana</i> Lam.	Ber	T
	<i>Zizyphus nummularia</i> (Burm.f.)	Jhar	S
	<i>Zizyphus oenoplia</i> L.	Makoh	S
19.	ANACARDIACEAE		
	<i>Mangifera indica</i> L.	Aam	T
20.	MORINGACEAE		
	<i>Moringa oleifera</i> Lam.	Sonjna	T
21.	FABACEAE / LEGUMINOSAE		
	<i>Derris indica</i>	Papdi	T
	<i>Aeschynomene indica</i>		H
	<i>Alysicarpus bupleurifolius</i> L.		H
	<i>Alysicarpus monilifer</i> L.		H
	<i>Alysicarpus vaginalis</i> L.		H
	<i>Butea monosperma</i> Lam.	Dhak	T
	<i>Crotolaria medicagenea</i> Lam.		US
	<i>Crotolaria mysorensis</i> Roth.		US
	<i>Dalbergia sisso</i> L.f.	Sisham	T
	<i>Desmodium triflorum</i> L.		H
	<i>Indigofera tinctoria</i> L.		S
	<i>Indigofera linnaei</i> L.		S
	<i>Sesbania sesban</i> L.		S
	<i>Tephorsia uniflora</i> L.		H
	<i>Teramnus labialis</i> L.f.		H
	<i>Uraria picta</i> (Jacq.)	Dabra	US
	<i>Vicia hirsute</i> L.		H
	<i>Zornia gibbosa</i>		H
	<i>Cicer arietinum</i> L.	Chana	H
	<i>Phaseolus lunatus</i> L.	Lobia	H
	<i>Pisum stivum</i> L.	Matar	H
	<i>Vigna radiata</i> L.	Mung	H
	<i>Cassia fistula</i> L.	Amaltas	T
	<i>Cassia occidentalis</i> L.		US
	<i>Cassia obtusifolia</i> L.		H
	<i>Delonix regia</i> Rafin.	Gulmohar	T
	<i>Tamarindus indica</i> L.	Imli	T
22.	MIMOSOIDEAE		
	<i>Acacia nilotica</i> L.	Kikar	T
	<i>Acacia arabica</i> L.		T
	<i>Albizia lebbeck</i> L.	Saras	T
	<i>Pithecellobium dulce</i> Roxb.	Jungli jlabi	T
	<i>Prosopis cineraria</i> L.		T
	<i>Prosopis juliflora</i>	Phadi kikar	T

	<i>Potentilla supina</i> L.		T
	<i>Prunus persica</i> L.	Aadu	T
23.	COMBRETACEAE		
	<i>Terminalia arjuna</i> Roxb.	Arjun	T
	<i>Terminalia belerica</i> Roxb.	Bahera	T
24.	MYRTACEAE		
	<i>Syzygium cumini</i> L.	Jamun	T
	<i>Eugenia jambolana</i> L.	Jamoa	T
	<i>Eucalyptus paniculata</i> Smith.	Sfeda	T
	<i>Psidium gujava</i> L.	Amrud	T
25.	LYTHRACEAE		
	<i>Ammannia auriculata</i> Willd.		H
	<i>Ammannia baccifera</i> L.		H
	<i>Lawsonia inermis</i> L.	Mehandi	S
26.	PUNICACEAE		
	<i>Punica granatum</i> L.	Anar	US
27.	ONAGRACEAE		
	<i>Ludwigia perennis</i> L.		H
28.	TRAPACEAE		
	<i>Tarapa natans</i> L.	Singhara	H
29.	CUCURBITACEAE		
	<i>Binincasa hispida</i> (Thunb.)	Petha	H
	<i>Coccinia grandis</i> L.	Kundru	CL
	<i>Cucumis callosus</i> L.	Kachri	H
	<i>Melothria maderaspatana</i> L.		H
	<i>Trichosanthes dioica</i> Roxb.	Parwal	Tw
	<i>Cucumis melo</i> L.	Kharbuja	H
30.	BEGONIACEAE		
	<i>Begonia picta</i> L.		H
31.	CACTACEAE		
	<i>Opentia dillenii</i>	Naagfani	S
	<i>Opentia monacantha</i>		S
32.	AIZOACEAE		
	<i>Trianthema portulacastrum</i> L.		H
33.	APIACEAE		
	<i>Apium graveolens</i> L.		H
	<i>Coriandrum sativum</i> L.	Dhania	H
	<i>Daucus carota</i> L.	Gajar	H
	<i>Trachyspermum ammi</i> L.	Ajwain	H
34.	RUBIACEAE		
	<i>Mitragyna parviflora</i> Roxb.		T
	<i>Anthocephalus indicus</i>	Kadamb	T
	<i>Oldenlandia corymbosa</i> L.		H
35.	ASTERACEAE		
	<i>Artemisia capillaries</i> Thunb.		H
	<i>Caesulia axillaris</i> Roxb.	Bangra	H
	<i>Centipeda minima</i> L.		H
	<i>Conyza bonariensis</i> L.		H
	<i>Eclipta prostrate</i> L.	Jalmogra	H
	<i>Gnaphalium polycaulon</i> L.		H
	<i>Parthenium hysterophorus</i> L.	Congress ghas	H

	<i>Sonchus asper</i> L.		H
	<i>Vernonia cinerea</i> L.		H
	<i>Xanthium indicum</i> L.	Cocklebur	H
36.	SPOTACEAE		
	<i>Madhuca indica</i> J.Gmelin	Mahua	T
37.	EBENACEAE		
	<i>Diospyros cordifolia</i> Roxb.	Kaindu	T
38.	OLEACEAE		
	<i>Jasminum humile</i> L.		S
39.	SAVADORACEAE		
	<i>Salvadora oleoides</i> L.	Jal	T
40.	APOCYANACEAE		
	<i>Carissa spinarum</i> L.	Jangli karaunda	S
	<i>Rauwolfia serpentine</i> (L.) Benth.	Sarpagandha	US
	<i>Ichnocarpus frutescens</i> L.	Bakkarbel	CL
	<i>Alstonia scholarias</i> L.	Saptpatti	T
	<i>Catharanthus roseus</i> L.	Sadabhar	H
	<i>Nerium indicum</i> Mill.	Kaner	S
	<i>Tabernaemontana divaricata</i>	Chandni	S
41.	ASCLEPIADACEAE		
	<i>Calotropis gigantea</i> L.	Safed aak	S
	<i>Calotropis procera</i> L.	Aak	S
	<i>Leptadenia reticulata</i>	Jivanti	H
	<i>Pentatropis spiralis</i>	Akaribel	CL
	<i>Wattakaka volubilis</i>		CL
	<i>Cryptostegia grandiflora</i> R.Br.		S
42.	HYDROPHYLLACEAE		
	<i>Hydrolea zeylanica</i> L.		H
	<i>Coldenia procumbens</i> L.		H
	<i>Cynoglossum wallichii</i>		H
43.	EHRETIACEAE		
	<i>Cordia dichotoma</i> L.	Lasora	T
44.	CONVOLVULACEAE		
	<i>Convolvulus arvensis</i> L.		H
	<i>Evolvulus alsinoides</i> L.		H
	<i>Ipomoea cairica</i> L.	Railwaycreeper	H
	<i>Ipomoea batatas</i> L.	Shakarkand	H
45.	CUSCUTACEAE		
	<i>Cuscuta hyaline</i> L.		Tw
	<i>Cuscuta reflexa</i> Roxb.	Amarbel	Tw
46.	SOLANACEAE		
	<i>Datura innoxia</i> L.	Dhatura	H
	<i>Datura metel</i>	Kala dhatura	H
	<i>Physalis minima</i> L.	Pilpotan	H
	<i>Solanum nigrum</i> L.	Makoi	H
	<i>Withania somnifera</i> L.	Ashwagandha	US
	<i>Capsicum annuum</i> L.	Mirch	H
	<i>Cestrum nocturnum</i> L.	Rat ki rani	S
	<i>Lycopersicon esculentum</i> Mill.	Tamator	H
	<i>Nicotiana rustica</i> L.	Tobacco	H
47.	SCROPHULARIACEAE		

	<i>Bacopa monnieri</i> L.	Brahmi	H
	<i>Lindernia crustacean</i> L.		H
	<i>Striga angustifolia</i>		H
	<i>Veronica agrestis</i>		H
48.	MARTYNIACEAE		
	<i>Martynia annua</i> L.		H
49.	ACANTHACEAE		
	<i>Adhatoda zeylanica</i> Mill.	Bansa	S
	<i>Dicliptera roxburghiana</i>	Laksmanna	H
	<i>Dipteracanthus prostrates</i> (Poir)		H
	<i>Elytraria acaulis</i> (L.f.)		H
	<i>Justica peploides</i> (Nees)		H
	<i>Barleria cristata</i>	Kala bansa	S
50.	VERBENACEAE		
	<i>Tectona grandis</i> Linn.	Saigon	T
	<i>Clerodendrum phlomidis</i> L.f.		S
	<i>Duranta repens</i> L.		S
	<i>Lantana indica</i> L.		S
	<i>Phyla nodiflora</i> L.	Mokna	H
	<i>Verbena officinalis</i> L.		H
	<i>Vitex negundo</i> L.	Marwah	T
51.	LAMIACEAE		
	<i>Leucas cephalotes</i>	Guldoda	H
	<i>Ocimum basilicum</i> L.	Tulsi	H
	<i>Ocimum sanctum</i> L.		H
	<i>Orthosiphon pallidus</i> Benth.		H
	<i>Mentha piperita</i> L.	Pudina	H
52.	PLANTAGINACEAE		
	<i>Plantago ovate</i>	Isabgol	H
53.	NYCTAGINACEAE		
	<i>Boerhavia diffusa</i> L.		H
	<i>Commicarpus chinensis</i> L.		S
54.	AMARANTHACEAE		
	<i>Achyranthus aspera</i> L.	Puttcanda	H
	<i>Alternanthera sessilis</i> L.		H
	<i>Amaranthus roxburghianus</i>	Cholai	H
	<i>Celosia tricolor</i> L.		H
	<i>Digera muricata</i> L.	Dhofar	H
	<i>Gomphrena celosioides</i> L.		H
	<i>Pupalia lappacea</i> L.		H
55.	CHENOPODIACEAE		
	<i>Atriplex crassifolia</i> L.		S
	<i>Chenopodium ambrosioides</i> L.		H
	<i>Kochia indica</i>		H
	<i>Beta vulgaris</i> L.	Chukandar	H
	<i>Spinacea oleracea</i> L.	Palak	H
56.	POLYGONACEAE		
	<i>Polygonum barbatum</i> L.		H
	<i>Polygonum lapathifolium</i> L.		H
	<i>Polygonum plebeium</i> L.		H
57.	EUPHORBIACEAE		

	<i>Acalypha ciliate</i> L.	Kuppi	H
	<i>Croton bonplandianum</i> L.		H
	<i>Drypetes roxburghii</i> (Wall.)	Putranjiva	T
	<i>Euphorbia dracunculoides</i> Lam.		H
	<i>Euphorbia hirta</i> L.		H
	<i>Euphorbia thymifolia</i> Linn.	Choti dudhi	H
	<i>Euphorbia neriiifolia</i> L.	Thohar	S
	<i>Euphorbia royleana</i> Boiss.		S
	<i>Jatropha curcas</i> L.	Diesal plant	S
	<i>Kirganelia reticulate</i> (Poir)		S
	<i>Embllica officinalis</i> L.	Amla	T
	<i>Phyllanthus urinaria</i>		S
	<i>Phyllanthus virgatus</i>		H
	<i>Ricinus communis</i> L.	Arandi	S
58.	CANNABINACEAE		
	<i>Cannabis sativa</i> L.	Bhang	H
59.	MORACEAE		
	<i>Ficus benghalensis</i> L.	Barh	T
	<i>Ficus racemosa</i> L.	Gular	T
	<i>Ficus religiosa</i> L.	Pipal	T
	<i>Ficus virens</i> Ait., Hort.	Pilkhan	T
	<i>Ficus carica</i> L.	Angir	T
	<i>Morus alba</i> L.	Shehtoot	T
	<i>Artocarpus heterophyllus</i> Lam.	Kathal	T
	<i>Ficus elastic</i> L.	Rubber	T
60.	CASUARINACEAE		
	<i>Casuarina equisetifolia</i> L.	Jhau	T
61.	HYDROCHARITACEAE		
	<i>Hydrilla verticillata</i> (L.f.)		H
62.	MUSACEAE		
	<i>Musa paradisiacal</i> L.	Kela	H
63.	AGAVACEAE		
	<i>Agave cantala</i> Roxb.		H
64.	AMARYLLIDACEAE		
	<i>Crinum defixum</i> L.	Sukhdarshni	H
65.	LILIACEAE		
	<i>Allium cepa</i> L.	Pyaj	H
	<i>Alliumsativum</i> L.	Lahsun	H
	<i>Aloe barbadensis</i>	Ghritkumari	S
	<i>Asparagus recemosus</i> Willd.	Satavar	S
	<i>Asphodelus tenuifolius</i> L.	Pyaji	H
66.	PONTEDERACEAE		
	<i>Eichhornia crassipes</i> Kunth.	Jalkhumbi	H
	<i>Monochoria vaginalis</i> L.		H
67.	ARECACEAE		
	<i>Phoenix sylvestris</i> L.	Khajur	T
68.	POTAMOGETONACEAE		
	<i>Potamogeton crispus</i> L.		H
69.	CYPRACEAE		
	<i>Carex fedia</i> L.	Motha	H
	<i>Cyperus bulbosus</i> L.		H

	<i>Cyperus corymbosus</i> L.		H
	<i>Cyperus rotundus</i> L.		H
	<i>Cyperus triceps</i> L.		H
70.	POACEAE		
	<i>Apluda mutica</i> L.		H
	<i>Aristida adscensionis</i> L.		H
	<i>Brachiaria distachya</i> L.		H
	<i>Brachiaria ramosa</i> L.		H
	<i>Cenchrus ciliaris</i> L.	Anjan	H
	<i>Cymbopogon jwarncusa</i>		H
	<i>Cynodon dactylon</i> L.	Doob ghas	H
	<i>Desmostachya bipinnata</i> L.		H
	<i>Digitaria ciliaris</i> (Retz.)		H
	<i>Digitaria stricta</i>		H
	<i>Echinochloa colonum</i> L.		H
	<i>Eleusine indica</i> L.		H
	<i>Heteropogon contortus</i> L.		H
	<i>Lolium temulentum</i> L.		H
	<i>Panicum antidotale</i> L.		H
	<i>Saccharum ravennae</i> L.	Sarkanda	H
	<i>Setaria glauca</i> L.		H
	<i>Oryza sativa</i> L.	Dhan	H
	<i>Saccharum officinarum</i> L.	Ganna	H
	<i>Triticum aestivum</i> L.	Genhu	H
	<i>Zea mays</i> L.	Makka	H
71.	CARICACEAE		
	<i>Carica papaya</i>	Papita	S
72.	SIMAROUBACEAE		
	<i>Ailanthus excels</i>	Mahanimb	T

Abbreviations: CL – Climber, H- Herb, S- Shrub, T- Tree, Tw- Twiner, US- Under Shrub, WC- Woody Climber.