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PLANT COMMUNITY STRUCTURE AND BIODIVERSITY PATTERNS IN CHATTOGRAM METROPOLITAN CITY OF BANGLADESH

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Abstract

The present study aims at investigating the vegetation in different sites of Chattogram metropolitan area following appropriate techniques. In order to enumerate the distribution of species, several diversity indices including Shannon-Winer Index, Pielou's Evenness and Simpson's Index were employed. A total of 645 species belonging to 414 genera under 120 families were documented from the studied area for the first time. Of these, 37 species (5.73%) are pteridophytes, 607 species (94.11%) are angiosperms and single representation of gymnosperm (0.16%). Among the recorded species, 384 are medicinal species belonging to 277 genera under 93 families. *Bacopa monnieri* is a dominant species in the forest area with some co-dominant species like *Eichhornia crassipes*, *Centella asiatica,* etc. Moreover, this study provides potential sources to the environmental planners, herbalists, ecologists, taxonomists, ethnobotanists, pharmacists, phytochemists and local administration that would help to plan for future green infrastructure and maintain ecosystem function providing long-term benefits for the city dwellers.

Introduction

Urban ecosystems, which offer many advantages including defenses against pollution and biodiversity preservation, are significantly influenced by plants. Urban ecosystem helps to conserve energy, to reduce urban heat island effect, to improve air and water quality, to conserve biodiversity and to sequestrate carbon level of a metropolitan city (Nowak *et al.,* 2006). In instant, urban forest is principal component of urban ecosystem that provide significant environmental benefits and services to the urban environment 1999). A healthy urban ecosystem also improves the quality of microclimate, which acts as an aid for quick recovery from illness by providing natural recreation services and reducing psychological stress, subsequently reduces health cost (McPherson *et al.*, 1997; Maco and McPherson, 2003). Environmental quality within urban areas is highly influenced by urban forest structure and composition (Jim and Chen, 2003; Zhao *et al.,* 2010). One such city is Chattogram. The Chattogram in Bangladesh is a densely populated city. In contrast, the city comprises of highly urbanized area, semi urbanized area with homestead vegetation, hilly urbanized area with scattered forest, semievergreen hilly forest and coastal vegetation along the coast of the Bay of Bengal. The natural heritage and floristic composition

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of Chattogram city attracted plant explorers and taxonomists from prehistoric times and provided a basis to conduct floristic research in that evergreen city (Anon, 2003; Uddin *et al.,* 2015). However, it is very unfortunate that Chattogram city is losing its beauty and biological heritage faster due to the rapid unplanned urbanization (Uddin *et al.,* 2015). Urbanization, the most concentrated and prompts human-driven factors that peril biodiversity as well as urban ecosystem (Kondratyeva *et al.,* 2019). The ecological balance of such type of city is very significant for nature and human being. Most importantly, plantation in planned way in Chattogram city may protest soil erosion, reduce environmental pollution, reduce ever increasing temperature of a city area, increase rainfall and protest from natural disaster. Besides, such forest has huge aesthetic value, which could be an attraction for tourist from home and abroad. Therefore, this type forest is also source of traditional medicinal plants, which are source of raw materials of pharmaceutical industries in developed country in present era.

Previously, some partial and isolated works have been carried out in Chattogram city to understand floristic characters of the city. In instant, Uddin *et al.* (2015) conducted research on only tree species and Biswas *et al.* (2021) carried work on only Sulakbahar Ward of the city. Such research is neither complete nor might describe the entire floral scenario of such a big city. Nevertheless, these works carry significance that Chattogram city consist lots of floral diversity, which are yet to be discovered.

Documentation of traditional uses of the local plants used by local communities is very important to know local status of the plant diversity and medicinal plants along with their taxonomic and ecological status. This study aimed to record all types of plant species present in the Chattogram city since the literature studies are largely bereft on it. Therefore, present study intended to record the whole plant diversity of Chattogram city to know the total number of plant species as well as total number of medicinal plants species. We also aimed to know whether any threatened/rare species are there which are medicinally important to draw attention to the national policy makers for conservation those species. Alongside, we expect to record new species from the study areas, as many areas of the city remain unexplored yet. Overall, this research study intended to explore floral diversity, density, conservation status along with threats on floral diversity of the studied areas, which would be useful to develop long-term management plan. The goal of this study is to present the actual scenario of the plant diversity and to make this data available to the stakeholders to protect and preserve them by sustainable planning and management of the city for the current and future generations.

Materials and Methods

Study area

Chattogram is a densely populated city of Bangladesh. The city comprises of highly urbanized area, semi urbanized area with homestead vegetation, hilly urbanized area with scattered forest, semievergreen hilly forest and coastal vegetation along the coast of the Bay of Bengal. Chittagong City Corporation area 160.99 sq km, located in between 22°13' and 22°27' north latitudes and in between 91°40' and 91°53' east longitudes (Fig. 1). We selected some floral diversity rich areas of the Chattogram metropolitan area for extensive survey: Probortok Hill, CMC Hill , Gul pahar, Tigerpass hill, CRB hill, DC Hill, Batali Hill, Jilapi pahar,Omar ghoni MES college pahar, Hill of Biojith link Road, plantaion of Road side, Mothi jorna, Aam Bagan, Pahartali, CRW Hill, Dampara Hill, Marine Dribe, Bagh ghona hill, Zilaporishod Hill, Golam Miar Pahar, Joy pahar, Kanon Dhara residential Hill, war cematry, khatal Baghan hill and Khulshi Hill as study area. The fieldwork was conducted from April, 2021 to November, 2021.

Fig. 1. Map of Chittagong City (Source Google Map).

Sampling methods

Stratified random sampling method was used for survey of the vascular plants; each site was divided into tree zone based on topography (top, middle and bottom slope). A total of 300 plots were taken from 20 different areas and 5 plots from each zone. All habit types of plant population in each quadrat were recorded. The plot size and identification procedure follow according to methods describe at Rudra *et al.* (2021)

Identifying medicinal plants with their traditional knowledge and pharmaceutical uses

Identification of medicinal plant was done by consulting with experts, literature survey, online search, market survey and consulting with local herbalists. Pharmaceutical uses and important medicinal plants and their demand in pharmaceutical industries also determine by consulting with expert. Ethnomedicinal information was stored to our existing online database at mpbd.cu.ac.bd.

Quantitative framework

Diversity Indices and phytosociological attributes were calculated for all the plots of Chattrogram metropolitan area by using Primer V6 software. Major phytosociological attributes like relative density, relative frequency, relative abundance, and importance value index including Shannon-Wiener's diversity index, Simpson's diversity index, and species evenness index were calculated followed by apporopoate formula (Table 1). Voucher specimen were prepared following standard herbarium technique and preserved at Chittagong University Herbarium with accession number for further investigation.

Table 1. Statistical formula for phytosociological characteristics determinants and diversity indices.

Attributes	Equations	Citations	Variable interpretation
Frequency (x)	$x=\frac{c}{b}$	(Rudra *et al.*, 2021)	a= Number of members of a certain species in each plot b = the total number of plots examined c=total number of plots where the species is found. n=A species' population size is in number N=total number of individuals of all the species P = n/N S = total number of species
Abundance (y)	$y=\frac{a}{c}$	(Rudra *et al.*, 2021)	
Relative density (RD)	$RD = \frac{n}{N} \times 100$	(Dallmeier, 1992)	
Relative frequency (RF)	$RF = \frac{Xi}{\sum Xi} \times 100$	(Dallmeier, 1992)	
Relative abundance (RA)	$RA = \frac{yi}{\sum yi} \times 100$	(Shukla and Chandel, 2000)	
Importance value index (IVI)	IVI = RD + RF + RA	(Rudra *et al.*, 2021)	
Shannon-weiner diversity index (H)	$H = -\sum Pi (\ln Pi)$	(Hill, 1973)	
Simpson diversity index (D)	$D = \sum Pi^2$	(Colwell, 2014)	

Result and Discussion

Plant Diversity with status of occurance

This study has explored the occurrence of 645 vascular plant species belonging to 414 genera under 120 families from Chattogram Metropolitan area which was consistence with other study at different forest area in Bangladesh (Heinig, 1925; Rahman and Uddin, 1997; Dey *et al.*,1999; Tutul *et al.*, 2010; Uddin *et al.*, 2017; Rashid *et al.,* 2018; Chowdhury *et al.*, 2019; Hossain *et al.*, 2020; Rudra *et al.*, 2021) and higher than the other study of different metropolitan area and other side in Bangladesh (Akber *et al.*, 2011; Rahman, 2013; Uddin *et al.*, 2015; Dutta *et al*, 2015; Rahman *et al*, 2016; Jaman *et al.*, 2017; Islam *et al*, 2021). The documented plants species from the study area are summarized in Table 2 along with family, scientific name, local name, habit, medicinal/non-medicinal, the Importance Value Index (IVI), accession number with conservation status. Out of the recorded species, 37(5.73%) are pteridophytes, 01(0.16%) are gymnosperms and rest of 607 (94.11%) are angiosperms i.e Magnoliopsida and Liliopsida (Table 2). In this study, the pteridopytic flora revealed the occurrence of 37 (5.73%) species under 31 genera and 13 families. On the other hand, out of the recorded angiospermic plant, dictoyledons (Magnoliopsida) has been represented by 453 (70.23%) species belonging to 281 genera under 86 families, whereas the monocotyledons (Liliopsida) group occupied 154 (23.88%) species under 97 genera and 20 families (Table 2). However, this finding is different from other reports (Hossain *et al.*, 2013; Rudra *et al.,* 2021; Nahar *et al.*, 2016)

Table 2. Comprehensive checklist of plant diversity recorded from Chattogram Metropolitan area.

Family	Scientific name	Local Name	Habit	MV	IVI	Accn. No	Status of Occurence
Acanthaceae	*Acanthus ilicifolius* L.	Hargoza	Shrub	M	0.07	SUF 010	LC
	Andrographis paniculata (Burm.f.) Wall. ex Nees	Kalomegh	Herb	M	0.69	SUF 058	NE
	Asystasia gangetica (L.) T. Anderson	Gangatara	Herb	NM	0.73	SUF 081	NE
	Barleria lupulina Lindl	Bishalla	Shrub	M	0.09	SUF 090	NE
	Justicia adhatoda L.	Basak	Shrub	M	0.13	SUF 354	NE
	Justicia punduana Wall.	Pandu basak	Shrub	NM	0.07	SUF 355	NE
	Lepidagathis incurva Buch. -Ham. ex D. Don	Karoggathis	Herb	NM	0.32	SUF 368	NE
	Lepidagathis linearis T. Anderson	Lambugathis	Herb	NM	0.36	SUF 369	NE
	Rungia pectinata (L.) Nees	Pindi	Herb	NM	0.48	SUF 523	NE
	Thunbergia alata Bojer ex Sims	Ghontolata	Climber	NM	0.14	SUF 608	NE
	Thunbergia grandiflora (Roxb. ex Rottl.) Roxb.	Neel lata	Shrub	M	0.25	SUF 609	NE
Actinidiaceae	*Saurauia roxburghii* Wall.	Dalup	Tree	M	0.09	SUF 531	LC
Adiantaceae	*Adiantum capillus*-veneris L.	Venichadda	Herb	M	0.57	SUF 018	LC
	Adiantum philippense L.	Kalijhat	Herb	M	1.03	SUF 021	NE
	Adiantum caudatum L.	Biddapata	Herb	M	0.81	SUF 019	NE
	Adiantum flabellulatum L.	China pakha	Herb	NM	0.75	SUF 020	NE
	Adiantum tenerum Sw.	Halka pakha	Herb	M	0.82	SUF 022	NE
Agavaceae	*Agave americana* L	Agakana	Herb	NM	0.51	SUF 024	LC
	Dracaena angustifolia (Medik.) Roxb	Chikna drakan	Shrub	NM	0.34	SUF 247	NE
	Dracaena elliptica Thunb. & Dalm.	Lamba drakan.	Herb	NM	0.47	SUF 248	LC
	Furcraea foetida (L.) Haw	Gandhohemp	Herb	NM	0.56	SUF 300	NE
	Sansevieria trifasciata Prain	Sapahara	Herb	M	0.31	SUF 527	NE
Amaranthaceae	*Achyranthes aspera* L.	Apang	Herb	M	0.85	SUF 011	NE
	Alternanthera philoxeroides (Mart.) Griseb.	Helencha, Hinchashak, Harahcho	Herb	NM	0.92	SUF 046	NE
	Alternanthera sessilis (L.) R.Br. ex DC.	Haicha	Herb	M	0.58	SUF 047	LC
	Amaranthus spinosus L.	Kantanotey	Herb	M	0.96	SUF 048	NE
	Amaranthus tricolor L.	Notey shak	Herb	M	0.86	SUF 049	NE
	Amaranthus viridis L.	Notey	Herb	M	1.15	SUF 050	NE

Family	Scientific name	Local Name	Habit	MV	IVI	Accn. No	Status of Occurence
	Gomphrena globosa L.	Botam phul	Herb	NM	0.33	SUF 309	NE
Amaryllidaceae	*Hymenocallis littoralis* (Jacq.) Salisb	Upakallis	Herb	NM	1.35	SUF 334	NE
Anacardiaceae	*Holigarna longifolia* Buch.-Ham. ex Roxb	Barola	Tree	M	0.09	SUF 327	NE
	Lannea coromandelica (Houtt.) Merr	Bhadi	Tree	M	0.35	SUF 362	LC
	Mangifera indica L.	Aam	Tree	M	0.73	SUF 404	DD
	Mangifera sylvatica Roxb	Jongliam	Tree	M	0.09	SUF 405	LC
	Spondias pinnata (L.f.) Kurz	Amra	Tree	M	0.21	SUF 570	NE
	Spondias purpurea L.	Deshi amra, Amra.	Tree	NM	0.09	SUF 571	LC
Annonaceae	*Annona reticulata* L.	Nona ata	Tree	NM	0.13	SUF 061	LC
	Annona squamosa L.	Ata	Tree	M	0.62	SUF 062	LC
	Desmos chinensis Lour	Sotoyalang	Shrub	M	0.21	SUF 223	NE
	Polyalthia longifolia (Sonn.) Thwaites	Debdaru	Tree	M	0.69	SUF 486	NE
Anthocerotaceae	*Anthoceros crispulus* (Mont.) Douin	Unknown	Herb	NM	0.57	SUF 064	NE
Apiaceae	*Centella asiatica* (L.) Urban	Thankuni	Herb	M	2.17	SUF 131	LC
Apocynaceae	*Allamanda cathartica* L.	Kalkephul	Shrub	M	0.46	SUF 035	NE
	Alstonia neriifolia D.Don	Soto chhatim	Tree	NM	0.35	SUF 044	NE
	Alstonia scholaris (L.) R.Br.	Chattim	Tree	M	0.65	SUF 045	LC
	Catharanthus roseus (L.) G.Don	Nayan tara	Herb	M	0.35	SUF 130	NE
	Holarrhena antidysenterica (Roxb. ex Fleming) Wall. ex A.DC.	Kuruj	Tree	M	0.21	SUF 325	NE
	Holarrhena pubescens Wall. ex G.Don	Kuruj	Tree	M	0.09	SUF 326	LC
	Ichnocarpus frutescens (L.) R.Br.	Shamlata	Climber	M	0.13	SUF 338	NE
	Nerium oleander L.	Rakta karabi	Shrub	M	0.07	SUF 441	LC
	Plumeria alba L.	Kat golap	Tree	M	0.50	SUF 481	NE
	Plumeria rubra L.	Katgolap	Tree	M	0.50	SUF 482	LC
	Rauvolfia tetraphylla L.	Chata swarpagandha	Shrub	M	0.16	SUF 513	NE
	Tabernaemontana abbreviata (J.F.Morales) A.O.Simões & M.E.Endress	Togarphul	Shrub	M	0.56	SUF 594	NE
	Thevetia peruviana (Pers.) K.Schum	Kolkeful	Tree	M	0.54	SUF 606	NE
	Wrightia arborea (Dennst.) Mabb.	Dudh-kuruch	Tree	M	0.32	SUF 637	LC
Araceae	*Aglaonema costatum* N.E.Br	Nemacos	Herb	NM	0.25	SUF 026	NE
	Aglaonema hookerianum Schott	Nimahook	Herb	M	0.25	SUF 027	NE

Species and voucher	Local name	Parts used	Diseases to be treated	Mode of application
Hibiscus rosa-sinensis L. Fam.: Malvaceae; LS 25 (DUSH)	Roktojoba	Flower	Dysentery	Flower juice is given in empty stomach twice a day for 4-5 days.
Justicia adhatoda L. Fam.: Acanthaceae; LS 26 (DUSH)	Basak	Leaves	Phlegm-catarrh	One table spoon of leaf juice is taken in the morning twice a day for one week.
Justicia gendarussa Burm. f. Fam.: Acanthaceae; LS 27 (DUSH)	Nokhkata	Leaves	To stop bleeding	4-5 smashed leaves are applied on the wound.
Kalanchoe pinnata (Lamk.) Pers. Fam.: Crassulaceae; LS 28 (DUSH)	Pathorkuchi	Leaves	Kidney stone	One teaspoon of leaf juice is taken 4-5 days in a month.
Lens culinaris Medik. Fam.: Fabaceae; LS 29 (DUSH)	Moshur dal	Seed	Dandruff	Overnight soaked water of lentil is applied 3-4 days in a week until recovery.
Leucas lavandulifolia Sm. Fam.: Lamiaceae; LS 30 (DUSH)	Dondokolosh	Leaves	Rheumatism	Cooked leaves after eaten 4-5 days in a month.
Litsea glutinosa (Lour.) Rob. Fam.: Lauraceae: LS 31 (DUSH)	Kharajora	Leaves	Weakness, gastrointestinal problems, fever	Leaf juice is taken in empty stomach twice a week for one month.
Mangifera indica Lamk. Fam.: Anacardiaceae; LS 32 (DUSH)	Aam	Peel of fruit	Body weakness	Juice of peel of fruit is taken daily in the morning in empty stomach for a month.
Mimosa pudica L. Fam.: Mimosaceae; LS 33 (DUSH)	Lojjaboti	Whole plant	Chicken pox	The smashed plant is taken by the uninfected people as a preventive agent.
Moringa oleifera Lamk. Fam.: Moringaceae; LS 34 (DUSH)	Shojna, hasina	Leaves	Cancer, leukaemia	Leaf juice is taken 3 times a day till the body regains its immunity.
Musa sapientum L. Fam.: Musaceae; LS 35 (DUSH)	Kola	Banana Flower	Diabetes	Curry of banana flower is eaten 2-3 days in a week.
Neolamarckia cadamba (Roxb.) Bosser Fam.: Rubiaceae; LS 36 (DUSH)	Kodom	Flower bud	Gastric trouble	Bud with a pinch of salt is eaten every morning for 3 days.
Peperomia pallucida (L.) Kunth Fam.: Peperomiaceae; LS 37 (DUSH)	Luchipata	Leaves	Tinea or ringworm	Juice of some leaves applied on the infected portion 3-4 days in a week until recovery.
Piper betel L. Fam.: Piperaceae; LS 38 (DUSH)	Paan	Leaf petiole	Burning of centipedes	Juice of petiole is applied on the burnt portion by centipede for 3 days.
Phaseolus vulgaris L. Fam.: Fabaceae; LS 39 (DUSH)	Shim	Leaves	Tinea	Smashed leaves with a pinch of salt are applied once a day until recovery.

Family	Scientific name	Local Name	Habit	MV	IVI	Accn. No	Status of Occurence
	Arenga pinnata (Wurmb) Merr.	Chini tal	Herb	NM	0.31	SUF 073	NE
	Borassus flabellifer L.	Tal	Herb	M	0.31	SUF 099	NE
	Calamus floribundus Griff.	Fulibet	Tree	NM	0.13	SUF 117	NE
	Calamus guruba Buch.-Ham.	Jalibet	Climber	NM	0.21	SUF 118	NE
	Calamus latifolius Roxb.	Kerakbet	Tree	NM	0.13	SUF 119	NE
	Calamus tenuis Roxb	Bet	Tree	M	0.24	SUF 120	LC
	Caryota mitis Lour.	Mithagota	Herb	NM	0.50	SUF 127	LC
	Cocos nucifera L.	Narikel	Herb	M	0.69	SUF 158	NE
	Didymosperma gracilis Hook.f.	Gracifuli	Herb	NM	0.28	SUF 226	NE
	Dypsis lutescens (H.Wendl.) Beentje & J.Dransf	Holdey bet	Tree	NM	0.13	SUF 253	NT
	Livistona chinensis (Jacq.) R.Br. ex Mart	China tokopata	Herb	NM	0.36	SUF 387	NE
	Phoenix sylvestris (L.) Roxb.	Khajur	Herb	M	1.09	SUF 469	NE
	Ptychosperma macarthurii (H.Wendl. ex H.J.Veitch) H.Wendl. ex Hook.f	Arhtar plam	Herb	NM	0.49	SUF 503	NE
	Roystonea oleracea (Jacq.) O.F.Cook	Royal palm	Tree	NM	0.13	SUF 521	NE
Asclepiadaceae	*Asclepias curassavica* L.	Kakturi	Herb	NM	0.50	SUF 077	NE
	Calotropis gigantea (L.) Ait.f	Akanda	Shrub	M	0.09	SUF 123	NE
	Hoya parasitica (Roxb.) Wall. ex Wight	Serapatahoya, Chera pata (Raj-Khul).	Epiphytes	M	0.21	SUF 331	NE
Aspleniaceae	*Asplenium aethiopicum* (Burm.f.) Bech.	Ethio aspleen	Herb	NM	0.35	SUF 079	NE
	splenium unilaterale Lam.	Beki aspleen	Herb	NM	0.43	SUF 569	NE
Asteraceae	*Ageratum conyzoides* (L.) L.	Fulkuri	Herb	M	0.64	SUF 025	NE
	Blumea lacera (Burm.f.) DC	Kuksunga	Herb	M	0.80	SUF 096	NE
	Chromolaena odorata (L.) R.M.King & H.Rob	Assamlata	Herb	M	1.20	SUF 139	NE
	Crassocephalum crepidioides (Benth.) S.Moore	Duubbecrepi	Herb	M	0.77	SUF 174	NE
	Cyanthillium patulum (Dryand. ex Dryand.) H.Rob	kukshim	Herb	NM	0.75	SUF 186	NE
	Cynoglossum lanceolatum Forssk. subsp. Lanceolatum	Kukurgihba	Herb	NM	0.26	SUF 192	NE
	Eclipta prostrata (L.) L.	Kalokeshi	Herb	NM	1.35	SUF 256	LC
	Emilia sonchifolia (L.) DC. ex DC	Sadimudi	Herb	M	1.16	SUF 264	NE
	Enhydra fluctuans Lour	Helencha	Herb	NM	0.76	SUF 265	NE
	Helianthus annuus L.	Surjomukhi	Herb	NM	0.47	SUF 316	LC
	Mikania micrantha Kunth	Toofainna lata	Climber	M	0.65	SUF 420	NE

Family	Scientific name	Local Name	Habit	MV	IVI	Accn. No	Status of Occurence
	Spilanthes acmella (L.) L.	Marhatitiga	Herb	M	1.55	SUF 568	NE
	Synedrella nodiflora (L.) Gaertn	Relanodi	Herb	M	1.31	SUF 582	NE
	Tagetes erecta L.	Gendaphul	Herb	M	0.34	SUF 596	NE
	Tagetes patula L.	Petagenda	Herb	NM	0.36	SUF 597	NE
	Tridax procumbens (L.) L.	Tridhara	Herb	M	0.32	SUF 622	NE
	Vernonia extensa (Wall.) DC.	Saravarnon	Herb	NM	0.23	SUF 628	NE
	Vernonia patula (Dryand.) Merr.	Shialmutra, Sada Debi.	Herb	M	0.33	SUF 629	NE
	Wedelia montana (Blume) Boerl.	Wadella	Herb	M	1.23	SUF 634	NE
	Xanthium indicum J.König. ex Roxb	Ghagra	Herb	M	0.29	SUF 638	NE
Bignoniaceae	*Fernandoa adenophylla* (Wall. ex G.Don) Steenis	Dakrum	Tree	NM	0.09	SUF 279	NE
	Oroxylum indicum (L.) Kurz	Thona	Tree	M	0.43	SUF 451	NE
	Stereospermum colais (Buch.-Ham. ex Dillw) Mabb	Dharmara	Tree	M	0.50	SUF 575	NE
	Stereospermum suaveolens (Roxb.) DC	Parul	Tree	M	0.13	SUF 576	NE
Bombacaceae	*Bombax ceiba* L.	Simul	Tree	M	0.58	SUF 097	LC
	Bombax insigne Wall.	Bon shimul	Tree	M	0.47	SUF 098	NE
Boraginaceae	*Ehretia acuminata* R.Br.	Punia, Punyam konda.	Tree	NM	0.28	SUF 257	LC
	Ehretia serrata Roxb.	Kalahuja	Tree	NM	0.13	SUF 258	NE
	Heliotropium indicum L.	Hatishur	Herb	M	1.08	SUF 319	NE
Brassicaceae	*Brassica campestris* L.	Sarisa	Herb	M	0.47	SUF 106	NE
	Rorippa indica (L.) Hiern	Bansarisha	Herb	M	0.33	SUF 519	NE
Bromeliaceae	*Ananus comosus* (L.) Merr.	Anaros	Herb	NM	0.47	SUF 057	NE
Burseraceae	*Protium serratum* (Wall. ex Coelbr.) Engl	Heru	Tree	NM	0.13	SUF 495	NE
Cactaceae	*Hylocereus undatus* (Haworth) Britton & Rose	Dragon fal	Herb	NM	0.14	SUF 333	DD
	Opuntia dellenii Haw	Fonimanasa	Shrub	NM	0.09	SUF 449	NE
Caesalpiniaceae	*Bauhinia acuminata* L.	Sada kanchan	Shrub	M	0.28	SUF 092	LC
	Bauhinia malabarica Roxb.	Karmi, Ban-kanchan.	Shrub	M	0.07	SUF 093	LC
	Bauhinia purpurea L.	Debkanchan	Shrub	M	0.07	SUF 094	LC
	Caesalpinia bonduc (L.) Roxb.	Natai	Shrub	NM	0.07	SUF 112	LC
	Caesalpinia digyna Rottler	Kochoi	Climber	M	0.12	SUF 113	NE
	Caesalpinia pulcherrima (L.) Sw.	Radhachura	Tree	M	0.35	SUF 114	LC
	Cassia fistula L.	Shonalu	Tree	M	0.50	SUF 128	LC

Family	Scientific name	Local Name	Habit	MV	IVI	Accn. No	Status of Occurence
	Delonix regia (Hook.) Raf.	Krishnachura	Tree	M	0.58	SUF 210	LC
	Saraca asoca (Roxb.) Willd	Asok	Tree	M	0.28	SUF 529	VU
	Senna alata (L.) Roxb.	Dadmardhan	Shrub	M	0.09	SUF 539	LC
	Senna hirsuta (L.) H.S.Irwin & Barneby	Gandhosena	Herb	M	0.57	SUF 540	NE
	Senna obtusifolia (L.) H.S.Irwin & Barneby	Bhotasena	Shrub	M	0.07	SUF 541	LC
	Senna occidentalis Roxb.	Oksisena	Shrub	NM	0.07	SUF 542	NE
	Senna siamea (Lam.) H.S.Irwin & Barneby	Minjiri	Tree	M	0.58	SUF 543	LC
	Senna sophera (L.) Roxb	Kalkeshunda	Shrub	M	0.21	SUF 544	NE
	Senna tora (L.) Roxb	Terasena	Herb	M	1.37	SUF 545	NE
	Tamarindus indica L.	Tentul	Tree	M	0.43	SUF 598	LC
Cannabaceae	*Canna indica* L.	Kolabati	Herb	M	0.37	SUF 124	NE
Capparaceae	*Cleome diffusa* Banks ex DC.	Sarabati.	Herb	NM	0.47	SUF 149	NE
	Cleome rutidosperma DC.	Begunehurhurey	Herb	NM	1.25	SUF 150	NE
	Cleome viscosa L.	Atha hurhuria	Herb	M	1.35	SUF 151	NE
	Crateva magna (Lour.) DC	Barun	Tree	M	0.09	SUF 175	NE
Caricaceae	*Carica papaya* L.	Pepe	Herb	M	1.12	SUF 126	DD
Caryophyllaceae	*Polycarpon prostratum* (Forssk.) Asch. & Schweinf	Gimashak	Herb	M	0.57	SUF 487	LC
Casuarinaceae	*Casuarina equisetifolia* L.	Jhau	Tree	M	0.32	SUF 129	LC
Chenopodiaceae	*Chenopodium album* L.	Betoshok	Herb	NM	0.44	SUF 134	NE
Clusiaceae	*Mesua ferrea* L.	Nageshwar, Nagkesar	Tree	M	0.13	SUF 414	NE
Combretaceae	*Anogeissus lanceolata* (Wall. ex C.B.Clarke) Prain	Koshoi	Tree	NM	0.13	SUF 063	NE
	Combretum indicum (L.) De Filipps	Madhabi Lata	Climber	NM	0.47	SUF 168	NE
	Getonia floribunda Roxb	Geton lata	Climber	M	0.44	SUF 302	NE
	Quisqualis indica L.	Basantilata	Climber	M	0.14	SUF 511	NE
	Terminalia arjuna (Roxb. ex DC.) Wight & Arn.	Arjun	Tree	M	0.47	SUF 602	NE
	Terminalia bellirica (Gaertn.) Roxb	Bohera, Boira	Tree	M	0.43	SUF 603	NE
	Terminalia catappa L.	Katbadam	Tree	M	0.69	SUF 604	LC
	Terminalia chebula (Gaertn.) Retz.	Horitoki	Tree	M	0.13	SUF 605	LC
Commelinaceae	*Amischotolype mollissima* (Blume) Hassk	Molisima	Herb	M	0.76	SUF 051	NE
	Commelina benghalensis L.	Dholpata	Herb	M	0.80	SUF 169	LC
	Commelina diffusa Burm.f.	Monayna kanshira	Herb	M	1.34	SUF 170	LC

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	Floscopa scandens Lour	Khara gaith	Herb	M	1.18	SUF 298	LC
	Tradescantia pallida (Rose) D.R.Hunt	Begunipindo	Herb	NM	0.27	SUF 615	NE
	Tradescantia zebrina Bosse	Zebrapindo	Herb	NM	0.29	SUF 616	NE
	Tradescantia spathacea Sw.	Chamapindo	Herb	NM	0.34	SUF 617	NE
Convolvulaceae	*Evolvulus nummularius* (L.) L.	Bhuiokra	Herb	M	0.31	SUF 278	NE
	Ipomoea aquatica Forssk	Kalmi	Herb	M	0.32	SUF 339	LC
	Ipomoea batatas (L.) Poir	Misti alu	Climber	NM	0.09	SUF 340	DD
	Ipomoea fistulosa Mart. ex Choisy	Dholkalmi	Herb	NM	0.18	SUF 341	NE
	Ipomoea obscura (L.) Ker Gawl	Kura kalmi	Climber	M	0.14	SUF 342	NE
	Ipomoea pes-caprae (L.) R.Br.	Chhagol kuri kalmi	Climber	M	0.12	SUF 343	NE
	Ipomoea pes-tigridis L.	Langulilata kalmi	Climber	NM	0.16	SUF 344	NE
	Ipomoea quamoclit L.	Torulata	Climber	NM	0.09	SUF 345	NE
	Merremia vitifolia (Burm.f.) Hallier f	Kormolata	Climber	M	0.26	SUF 413	NE
Costaceae	*Cheilocostus speciosus* (J.König) C.Specht	Banduki	Herb	M	1.12	SUF 133	LC
	Costus spicatus	Kemak	Herb	NM	0.37	SUF 173	NE
Crassulaceae	*Kalanchoe pinnata* (Lam.) Pers.	Kaphpata	Herb	M	0.23	SUF 357	NE
Cucurbitaceae	*Coccinia grandis* (L.) Voigt	Telakucha	Shrub	M	0.61	SUF 157	NE
	Momordica charantia L.	Korolla	Climber	M	0.17	SUF 426	NE
	Trichosanthes cucumerina L.	Bon chichinga	Climber	NM	0.34	SUF 621	NE
Cupressaceae	*Thuja orientalis* L.	Thuja, Jhau.	Tree	NM	0.13	SUF 607	NE
Cuscutaceae	*Cuscuta reflexa* Roxb.	Tarulata	Climber	M	0.13	SUF 185	NE
Cycadaceae	*Cycas pectinata* Buch.-Ham.	Nata cycas	Tree	M	0.09	SUF 188	VU
	Actinoscirpus grossus (L.f.) Goetgh. & D.A.Simpson	Shipra	Herb	M	0.47	SUF 016	NE
	Cyperus compactus Retz.	Bandorghasi	Herb	NM	0.31	SUF 193	LC
	Cyperus corymbosus Rottb.	Gola methi	Herb	NM	0.57	SUF 194	NE
	Cyperus difformis L.	Behua ghasi	Herb	NM	0.44	SUF 195	LC
	Cyperus digitatus Roxb.	Hath ghasi	Herb	NM	0.60	SUF 196	LC
	Cyperus exaltatus Retz.	Tata gashi	Herb	NM	0.31	SUF 197	LC
	Cyperus imbricatus Retz	Barachucha ghas	Herb	NM	0.57	SUF 198	LC
	Cyperus iria L.	Iri ghasi	Herb	M	1.34	SUF 199	NE
	Cyperus rotandus L	Mutha	Herb	M	1.10	SUF 200	NE

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	Cyperus kyllingiella Larridon	Gothubi	Herb	NM	0.31	SUF 201	LC
	Cyperus laxus Lam.	Dhila ghasi	Herb	M	1.99	SUF 202	NE
	Fimbristylis ovata (Burm.f.) J.Kern	Marmari fimbry	Herb	NM	1.20	SUF 294	NE
	Fimbristylis quinquangularis (Vahl) Kunth	Joyna	Herb	NM	1.49	SUF 295	LC
	Kyllinga nemoralis (J.R.Forst. & G.Forst.) Dandy ex Hutch. & Dalziel	Subasinirbisa	Herb	M	0.38	SUF 359	LC
Dennstaedtiaceae	*Microlepia speluncae* (L.) T.Moore	Fita dheki	Herb	NM	0.58	SUF 418	NE
Dilleniaceae	*Dillenia indica* L.	Chalta	Tree	M	0.32	SUF 233	LC
Dioscoreaceae	*Dioscorea alata* L.	Chupri alu	Climber	M	0.15	SUF 234	NE
	Dioscorea belophylla (Prain) Voigt ex Haines	Shora alu	Climber	M	0.30	SUF 235	NE
	Dioscorea bulbifera L.	Banalu	Climber	M	0.23	SUF 236	NE
	Dioscorea esculenta (Lour.) Burkill	Maitta alu	Climber	NM	0.34	SUF 237	NE
	Dioscorea pentaphylla L.	Jum alu	Climber	M	0.28	SUF 238	NE
Dipterocarpaceae	*Dipterocarpus alatus* Roxb. ex G.Don	Garjan	Tree	M	0.32	SUF 243	VU
	Dipterocarpus tuberculatus Roxb	garjan	Tree	M	0.17	SUF 244	NT
	Dipterocarpus turbinatus Gaertn	Telia gorjan	Tree	M	0.21	SUF 245	VU
	Hopea odorata Roxb.	Telsur	Tree	M	0.32	SUF 330	VU
	Shorea robusta Gaertner f.	Shal	Tree	M	0.17	SUF 549	LC
Dryopteridaceae	*Dryopteris chrysocoma* (Christ) C.Chr	Kriso fern	Herb	NM	1.39	SUF 250	NE
	Tectaria chattagramica (C.B.Clarke) Ching	Chattagrami tari dheki	Herb	NM	0.26	SUF 599	NE
Ebenaceae	*Diospyros blancoi* A.DC	Beelati gab	Tree	NM	0.09	SUF 239	NE
	Diospyros malabarica (Desr.) Kostel	Gab	Tree	M	0.47	SUF 240	NE
Elaeocarpaceae	*Elaeocarpus floribundus* Blume	Jalpai	Tree	M	0.69	SUF 260	NE
Euphorbiaceae	*Acalypha indica* L.	Muktajhuri	Herb	M	0.70	SUF 008	NE
	Actephila excelsa (Dalzell) Müll.Arg.	Lalsa	Shrub	M	0.12	SUF 014	LC
	Antidesma velutinosum Blume	Pashmi salishiabuka	Shrub	M	0.12	SUF 065	NE
	Aporosa octandra (Buch.-Ham. ex D.Don) A.R.Vickery	Choto kechua	Tree	NM	0.09	SUF 068	LC
	Astraea lobata (L.) Klotzsch	Aa-sthu-neey	Herb	NM	0.50	SUF 080	NE
	Bischofia javanica Blume	Kanjal	Tree	M	0.39	SUF 095	LC
	Breynia vitis-idaea (Burm.f.) C.E.C.Fisch.	Vita salpoti	Shrub	NM	0.07	SUF 107	LC
	Bridelia retusa (L.) A.Juss	Kantokushi, Kamkoi, Kantakoi, Heza.	Tree	M	0.47	SUF 108	LC

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	Codiaeum variegatum (L.) Rumph. ex A.Juss.	Patabahar	Shrub	NM	0.16	SUF 159	LC
	Croton bonplandianus Baill	Bankhira	Herb	M	1.08	SUF 180	NE
	Euphorbia cotinifolia L.	Tamat	Shrub	NM	0.09	SUF 272	LC
	Euphorbia hirta L.	Ghaopata	Herb	M	1.25	SUF 273	NE
	Euphorbia milii Des Moul	Kata mukut	Shrub	M	0.07	SUF 274	LC
	Euphorbia neriifolia L.	Kanta-manasa	Shrub	NM	0.07	SUF 275	LC
	Euphorbia thymifolia L.	Swetkerui	Herb	NM	0.32	SUF 276	NE
	Euphorbia tirucalli L.	Dudhia	Shrub	NM	0.07	SUF 277	LC
	Flueggea virosa (Roxb. ex Willd.) Royle	Khaukra	Shrub	NM	0.07	SUF 299	LC
	Glochidion multiloculare (Rottler ex Willd.) Voigt	Koishtuma	Shrub	NM	0.21	SUF 305	NE
	Jatropha aceroides (Pax & K.Hoffm.) Hutch.	Lal bherenda	Shrub	M	0.09	SUF 351	NE
	Jatropha curcas L.	Bagh verenda	Shrub	M	0.07	SUF 352	LC
	Jatropha gossypifolia L.	Lal bherenda	Shrub	M	0.16	SUF 353	NE
	Macaranga denticulata (Blume) Müll.Arg	Bura	Tree	M	0.21	SUF 395	LC
	Macaranga peltata (Roxb.) Müll.Arg	Pelta bura	Tree	NM	0.09	SUF 396	NE
	Mallotus nudiflorus (L.) Kulju & Welzen	Medda	Tree	M	0.50	SUF 401	LC
	Mallotus repandus (Willd.) Müll.Arg	Gunti	Tree	NM	0.35	SUF 402	NE
	Manihot esculenta Crantz	Kasava	Shrub	M	0.22	SUF 406	NE
	Phyllanthus emblica L.	Amloki	Tree	M	0.62	SUF 470	LC
	Phyllanthus niruri L.	Vuiamla	Herb	M	1.35	SUF 471	NE
	Phyllanthus reticulatus Poir	Chitki	Shrub	M	0.47	SUF 472	LC
	Phyllanthus sikkimensis Müll.Arg.	Sikimamla	Shrub	NM	0.09	SUF 473	NE
	Ricinus communis L.	Verenda	Shrub	M	0.47	SUF 518	NE
	Suregada multiflora (A.Juss.) Baill	Ban-naringa	Tree	M	0.17	SUF 580	NE
	Tragia involucrata L.	Bichuti	Herb	M	1.19	SUF 618	NE
Fabaceae	*Butea monosperma* (Lam.) Taub	Palas	Tree	M	0.65	SUF 110	LC
	Cajanus cajan (L.) Millsp	Arhhar	Shrub	M	0.09	SUF 115	NE
	Clitoria ternatea L.	Aparajita	Climber	M	0.16	SUF 156	NE
	Crotalaria juncea L.	Shonpat	Herb	M	0.36	SUF 177	NE
	Crotalaria pallida Aiton	Jhunjhuni	Herb	M	0.31	SUF 178	NE
	Crotalaria verrucosa L.	Varu jhanjhani	Herb	M	0.36	SUF 179	NE

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	Dalbergia sissoo DC	Shishoo	Tree	M	0.24	SUF 206	LC
	Dalbergia stipulacea Roxb	Dadbari	Tree	M	0.32	SUF 207	LC
	Dalbergia volubilis Roxb	Ankilata	Tree	M	0.32	SUF 208	NE
	Derris mitis (L.) Kurz	Mithilata	Climber	M	0.09	SUF 213	NE
	Derris trifoliata Lour	Kalilata	Climber	M	0.18	SUF 214	NE
	Desmodium concinnum DC	Konsi modi	Shrub	NM	0.16	SUF 215	NE
	Desmodium dichotomum (Willd.) DC	Daghno modi	Herb	NM	0.35	SUF 216	NE
	Desmodium gangeticum (L.) DC	Chalan	Shrub	M	0.35	SUF 217	NE
	Desmodium heterocarpon (L.) DC.	Karpo modi.	Herb	M	0.32	SUF 218	NE
	Desmodium heterophyllum (Willd.) DC	Bon-motorsuti	Shrub	NM	0.22	SUF 219	NE
	Desmodium microphyllum (Thunb.) DC	Choto modi	Shrub	NM	0.16	SUF 220	LC
	Desmodium triflorum (L.) DC	Kalaliya	Herb	M	0.89	SUF 221	NE
	Desmodium pulchellum (L.) Benth.	Jatsalpani	Shrub	NM	0.07	SUF 222	LC
	Erythrina fusca Lour	Kanta mandar	Tree	NM	0.28	SUF 270	LC
	Flemingia stricta Roxb.	Charchara phan	Herb	M	0.38	SUF 297	NE
	Lablab purpureus (L.) Sweet subsp. Purpureus	Shim	Climber	M	0.12	SUF 360	NE
	Pueraria tuberosa (Willd.) DC	Gola kunch	Climber	M	0.30	SUF 504	NE
	Sesbania bispinosa (Jacq.) W.Wight	Dhounja	Herb	NM	0.29	SUF 547	LC
	Sesbania sesban (L.) Merr.	Kathsola	Shrub	M	0.13	SUF 548	LC
	Tephrosia purpurea (L.) Pers	Sarpunkha	Shrub	M	0.21	SUF 601	NE
	Vigna mungo (L.) Hepper	Maskalay	Herb	NM	0.31	SUF 630	NE
	Dalbergia latifolia Roxb	Sitshal	Tree	M	0.13	SUF 205	VU
Flacourtiaceae	*Flacourtia jangomas* (Lour.) Raeusch	Lukluki	Tree	M	0.32	SUF 296	NE
Heliconiaceae	*Heliconia psittacorum* L.f	Tiathuti	Herb	NM	0.38	SUF 317	NE
	Heliconia rostrata Ruiz & Pav.	Chingrinomi	Herb	NM	0.44	SUF 318	NE
Hydrophyllaceae	*Hydrolea zeylanica* (L.) Vahl	Kasschara	Herb	M	0.20	SUF 332	LC
Lamiaceae	*Anisomeles indica* (L.) Kuntze	Gobura	Herb	M	0.58	SUF 060	NE
	Coleus scutellarioides (L.) Benth	Pathor-chur	Herb	NM	0.50	SUF 162	NE
	Hyptis brevipes Poit.	Gol tokma	Shrub	M	0.16	SUF 336	NE
	Hyptis suaveolens (L.) Poit	Tokma	Herb	M	1.16	SUF 337	NE
	Leucas aspera (Roth) Spreng	Shetodron	Herb	M	1.55	SUF 374	NE

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	Ocimum americanum L.	Bontulsi	Herb	M	0.77	SUF 443	NE
	Ocimum tenuiflorum L.	Tulshi	Herb	M	1.25	SUF 444	NE
	Ocimum sanctum L.	Tulshi	Herb	M	1.12	SUF 445	NE
	Plectranthus amboinicus (Lour.) Spreng	Patharchur	Herb	M	0.76	SUF 480	NE
	Pogostemon auricularius (L.) Hassk.	Aripachuli	Herb	M	0.25	SUF 484	NE
	Pogostemon paniculatus (Willd.) Benth.	Panipachuli	Herb	NM	0.29	SUF 485	NE
Lauraceae	*Actinodaphne angustifolia* Nees	Modon mosta	Tree	M	0.24	SUF 015	NE
	Cinnamomum tamala (Buch.-Ham.) Nees & Eberm.	Tejpata, Tamal aka, Huara, Garuifung.	Tree	M	0.09	SUF 142	LC
	Litsea glutinosa (Lour.) C.B.Rob.	Kukorcita, Kukurchita	Tree	M	0.09	SUF 384	LC
	Litsea monopetala (Roxb.) Pers	Bara kukurchita	Tree	M	0.32	SUF 385	LC
	Litsea salicifolia (Roxb. ex Nees) Hook.f	Borosialbuka	Shrub	NM	0.07	SUF 386	LC
Lecythidaceae	*Barringtonia acutangula* (L.) Gaertn	Hijal	Tree	NM	0.09	SUF 091	LC
Leeaceae	*Leea indica* Merr.	Kukurjhibba	Shrub	M	0.07	SUF 366	LC
	Leea macrophylla Roxb. ex Hornem.	Hostikormo	Shrub	NM	0.07	SUF 367	NE
Liliaceae	*Asparagus adscendens* Roxb	Shatamul	Climber	M	0.19	SUF 078	NE
	Crinum asiaticum L.	Barakanur	Herb	M	0.31	SUF 176	NE
	Molineria capitulata (Lour.) Herb	Satipata	Herb	M	1.06	SUF 425	NE
	Zephyranthes candida (Lindl.) Herb	Sada ghasphul	Herb	NM	0.37	SUF 641	NE
	Zephyranthes minuta (Kunth) D.Dietr	rain lily	Herb	NM	0.36	SUF 642	NE
Lythraceae	*Lagerstroemia speciosa* (L.) Pers	Jarul	Tree	M	0.62	SUF 361	NE
	Lawsonia inermis L.	Mendi	Shrub	M	0.32	SUF 365	LC
	Woodfordia fruticosa (L.) Kurz	Dhaiphul	Shrub	M	0.16	SUF 636	LC
Magnoliaceae	*Magnolia champaca* (L.) Baill. ex Pierre	Chapa, Champa.	Tree	M	0.43	SUF 400	LC
	Michelia champaca L.	champa	Tree	M	0.17	SUF 416	LC
Malpighiaceae	*Hiptage benghalensis* (L.) Kurz	Madhobilata	Climber	NM	0.14	SUF 324	LC
Malvaceae	*Abelmoschus esculentus* (L.) Moench	Bhendi	Herb	M	0.35	SUF 001	NE
	Abelmoschus manihot (L.) Medik.	Bankarpas	Herb	NM	0.58	SUF 002	NE
	Abelmoschus moschatus Medik	Kalokasturi	Herb	M	0.48	SUF 003	NE
	Hibiscus rosa-sinensis L.	Joba	Shrub	M	0.41	SUF 321	NE
	Hibiscus sabdariffa L. var. sabdariffa	Mesta	Shrub	M	0.28	SUF 322	NE

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	Hibiscus schizopetalus (Mast.) Hook.f	Jhumko joba	Shrub	NM	0.07	SUF 323	NE
	Malvaviscus penduliflorus DC.	Duli joba	Shrub	NM	0.07	SUF 403	NE
	Sida acuta Burm.f	Ban Methi	Shrub	M	0.64	SUF 550	NE
	Sida cordata (Burm.f.) Waalkes	Zunka	Shrub	M	0.52	SUF 551	NE
	Sida cordifolia L.	Shet-berela	Shrub	M	0.52	SUF 552	NE
	Urena lobata L.	Banokra	Shrub	M	0.64	SUF 626	LC
	Urena sinuata L.	Atapuran	Shrub	M	0.32	SUF 627	NE
Marantaceae	*Schumannianthus dichotomus* (Roxb.) Gagnep.	Pati-pata	Herb	M	0.39	SUF 533	NE
	Angiopteris sylhetensis de Vriese	Sylheti raj dheki	Herb	NM	0.32	SUF 059	NE
Marchantiaceae	*Dumortiera hirsuta* (Sw.) Nees	Unknown	Herb	NM	0.57	SUF 251	NE
	Marchantia palmata Reinw., Nees & Blume	Unknown	Herb	NM	0.72	SUF 408	NE
Marsileaceae	*Marsilea minuta* L.	Susni sak	Herb	NM	0.81	SUF 409	LC
Melastomataceae	*Melastoma malabathricum* L.	Bontejpata	Shrub	M	0.41	SUF 411	NE
	Osbeckia stellata Buch.-Ham. ex Ker Gawl.	Tellagaichi	Shrub	M	0.07	SUF 452	NE
Meliaceae	*Aphanamixis polystachya* (Wall.) R.Parker	Pitraj	Tree	M	0.32	SUF 067	LC
	Azadirachta indica A.Juss	Nim	Tree	M	0.69	SUF 085	LC
	Chukrasia tabularis A.Juss	Chikrassi	Tree	M	0.28	SUF 141	LC
	Khaya anthotheca (Welw.) C.DC.	Lambu	Tree	NM	0.35	SUF 358	VU
	Swietenia mahagoni (L.) Jacq.	Mehgini	Tree	NM	0.58	SUF 581	NT
Menispermaceae	*Diploclisia glaucescens* (Blume) Diels	Sonatola	Climber	M	0.26	SUF 242	NE
	Stephania japonica (Thunb.) Miers	Akandi manik	Climber	M	0.37	SUF 572	NE
	Tinospora cordifolia (Willd.) Miers	Guloncho	Climber	M	0.35	SUF 611	NE
	Tinospora crispa (L.) Hook.f. & Thomson	Baka guloncho	Climber	M	0.25	SUF 612	NE
Mimosaceae	*Acacia auriculiformis* Benth	Akashmoni	Tree	NM	0.39	SUF 005	LC
	Acacia mangium Willd	Mangium	Tree	NM	0.24	SUF 006	LC
	Acacia nilotica (L.) Del. subsp. indica (Benth.) Brenan	Babla	Tree	M	0.09	SUF 007	NE
	Albizia chinensis (Osbeck) Merr.	Chakua koroi	Tree	M	0.09	SUF 028	NE
	Albizia lucidior (Steud.) I.C.Nielsen	Sil-koroi	Tree	M	0.69	SUF 029	NE
	Albizia myriophylla Benth	Titulya koroi	Tree	NM	0.09	SUF 030	NE
	Albizia procera (Roxb.) Benth	Koroi	Tree	M	0.47	SUF 031	LC
	Albizia richardiana (Voigt) King & Prain	Sada koroi	Tree	NM	0.09	SUF 032	NE

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	Albizia saman (Jacq.) Merr	Raintree	Tree	NM	0.69	SUF 033	NE
	Entada rheedii Spreng	Gila	Climber	NM	0.14	SUF 266	NE
	Leucaena leucocephala (Lam.) de Wit	Epil-epil	Tree	NM	0.35	SUF 373	NE
	Mimosa diplotricha Sauvalle	Shada lajurikher	Herb	M	1.55	SUF 421	NE
	Mimosa pudica L	Lajjabati	Herb	M	2.09	SUF 422	LC
	Pithecellobium dulce (Roxb.) Benth.	Khoibabla	Tree	M	0.09	SUF 479	LC
	Xylia xylocarpa (Roxb.) Taub.	Lohakat	Tree	NM	0.09	SUF 640	LC
Molluginaceae	*Glinus oppositifolius* (L.) A.DC.	Gima	Herb	NM	0.23	SUF 303	LC
Moraceae	*Artocarpus chama* Buch.-Ham. ex Wall	Chapalish	Tree	NM	0.58	SUF 074	NE
	Artocarpus heterophyllus Lam	Kanthal	Tree	M	0.69	SUF 075	NE
	Artocarpus lacucha Buch.-Ham	Deua	Tree	NM	0.43	SUF 076	NE
	Ficus auriculata Lour	Kani-bot	Tree	M	0.47	SUF 280	LC
	Ficus benghalensis L.	Bot, Bangla-bot, Jhuribot.	Tree	M	0.50	SUF 281	NE
	Ficus benjamina L.	Pakur	Tree	M	0.39	SUF 282	LC
	Ficus carica L.	Angir-dumur, Anjir.	Tree	NM	0.09	SUF 283	LC
	Ficus elastica Roxb. ex Hornem	Para Rubber	Tree	NM	0.28	SUF 284	NE
	Ficus erecta Thunb	Balla-dumur	Tree	NM	0.09	SUF 285	LC
	Ficus glaberrima Blume	Rima-bot	Tree	NM	0.21	SUF 286	LC
	Ficus hederacea Roxb.	Gasi-dumur	Tree	M	0.09	SUF 287	NE
	Ficus hispida L.f	kak dumur	Tree	M	0.73	SUF 288	LC
	Ficus pumila L.	Lata dumur	Tree	M	0.32	SUF 289	NE
	Ficus racemosa L. var. racemose	Jaga dumur	Tree	M	0.17	SUF 290	LC
	Ficus religiosa L.	Pan bot	Tree	M	0.21	SUF 291	NE
	Ficus rumphii Blume	Jhula bot	Herb	M	0.17	SUF 292	NE
	Ficus semicordata Buch.-Ham. ex J.E.Sm	Sadimadi dumur	Tree	M	0.43	SUF 293	LC
	Morus alba L.	Tut	Tree	NM	0.09	SUF 432	LC
	Streblus asper Lour	Shaora	Tree	M	0.24	SUF 579	LC
Moringaceae	*Moringa concanensis* Nimmo ex Daiz & Gibbs	Sajna	Tree	M	0.13	SUF 430	NE
	Moringa oleifera Lam	Sajna	Tree	M	0.62	SUF 431	LC
Musaceae	*Musa itinerans* Cheesman	Atikola	Herb	NM	0.86	SUF 435	LC
	Musa ornata Roxb	Ramkola, Pahari Kola	Herb	M	1.61	SUF 436	LC
	Musa paradisiaca L.	Bichi kola	Herb	M	1.34	SUF 437	NE

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Myrsinaceae	*Ardisia colorata* Roxb.	Bangla oak	Epiphytes	NM	0.16	SUF 070	NE
	Maesa indica (Roxb.) A.DC	Deshiuni	Shrub	M	0.21	SUF 398	LC
	Maesa ramentacea (Roxb.) A.DC.	Noamoricha	Tree	M	0.21	SUF 399	LC
Myrtaceae	*Callistemon citrinus* (Curtis) Skeels	Bottle brush	Tree	M	0.13	SUF 122	NE
	Corymbia citriodora (Hook.) K.D.Hill & L.A.S.Johnson	Eucalyptus	Tree	M	0.13	SUF 172	LC
	Eucalyptus alba Reinw	Eucalptus	Tree	NM	0.47	SUF 271	LC
	Melaleuca leucadendron (L.) L.	Caju puti	Tree	NM	0.17	SUF 410	NE
	Psidium guajava L.	Peyara	Tree	M	0.50	SUF 496	LC
	Syzygium amplexicaule (DC.) N.P.Balakr.	Gutijam	Tree	NM	0.24	SUF 585	NE
	Syzygium aqueum (Burm.f.) Alston	Jambo	Tree	NM	0.09	SUF 586	NE
	Syzygium balsameum (Wight) Wall. ex Walp	Butijam	Tree	NM	0.35	SUF 587	NE
	Syzygium cumini (L.) Skeels	Jam	Tree	M	0.62	SUF 588	LC
	Syzygium diospyrifolium (Wall. ex Duthie) S.N.Mitra	Gabjam	Tree	NM	0.13	SUF 589	NE
	Syzygium firmum Thwaites	Dhakijam	Tree	NM	0.09	SUF 590	VU
	Syzygium fruticosum (Roxb.) DC	Futijam	Tree	M	0.24	SUF 591	NE
	Syzygium grande (Wight.) Walp	Dhaki jam	Tree	NM	0.32	SUF 592	NE
	Syzygium malaccense (L.) Merr. & L.M.Perry	Jamrul	Tree	M	0.39	SUF 593	LC
Nyctaginaceae	*Bougainvillea glabra* Choisy	Baganbilas	Shrub	NM	0.22	SUF 102	LC
	Bougainvillea spectabilis Willd	Kagojphul gach	Tree	NM	0.24	SUF 103	NE
	Mirabilis jalapa L.	Sondhamaloti	Herb	M	1.71	SUF 424	NE
Oleaceae	*Jasminum auriculatum* Vahl	jasmine	Shrub	M	0.13	SUF 349	NE
	Jasminum sambac (L.) Aiton	Beli	Shrub	NM	0.09	SUF 350	NE
Onagraceae	*Ludwigia adscendens* (L.) Hara	Keshordam	Herb	NM	0.34	SUF 388	LC
	Ludwigia hyssopifolia (G.Don) Exell	Zaikura	Herb	M	0.31	SUF 389	LC
	Ludwigia perennis L.	Amorkura	Herb	M	0.67	SUF 390	LC
	Ludwigia prostrata Roxb.	Shayankura	Herb	M	0.56	SUF 391	NE
Orchidaceae	*Acampe praemorsa* (Roxb.) Blatt. & McCann	Kandori phol	Epiphytes	M	0.14	SUF 009	NE
	Cymbidium aloifolium (L.) Sw	Tosabak	Epiphytes	M	0.24	SUF 189	NE
	Dendrobium aphyllum (Roxb.) C.E.C.Fisch.	Fasiariam.	Epiphytes	M	0.18	SUF 211	LC
	Liparis odorata (Willd.) Lind	Shumo liparis	Epiphytes	NM	0.16	SUF 381	NE
	Rhynchostylis retusa (L.) Blume	Shial leza orchid	Epiphytes	NM	0.23	SUF 517	NE

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Orobanchaceae	*Orobanche aegyptiaca* Pers.	Orobanche	Herb	M	0.28	SUF 450	NE
Oxalidaceae	*Averrhoa bilimbi* L.	Bilimbi	Tree	M	0.65	SUF 082	NE
	Oxalis corniculata L.	Amrul	Herb	M	1.15	SUF 454	NE
	Averrhoa carambola L.	Kamranga	Tree	M	0.58	SUF 083	NE
Pandanaceae	*Pandanus amaryllifolius* Roxb	Polao pata	Herb	NM	0.69	SUF 458	NE
	Pandanus odorifer (Forssk.) Kuntze	Keya	Shrub	M	0.07	SUF 459	LC
Passifloraceae	*Adenia cardiophylla* (Mast.) Engl	Pindopata	Tree	NM	0.13	SUF 017	NE
	Passiflora foetida L.	Jumkolata	Climber	M	0.24	SUF 464	NE
Pedaliaceae	*Sesamum indicum* L.	Jonglitil	Herb	NM	0.36	SUF 546	NE
Piperaceae	*Peperomia pellucida* (L.) Kunth	Peperomia	Herb	M	1.25	SUF 465	NE
	Piper nigrum L.	Golmorich	Climber	M	0.12	SUF 476	NE
	Piper sylvaticum Roxb.	Bon pan	Climber	M	0.09	SUF 477	NE
Poaceae	*Acroceras tonkinense* (Balansa) C.E.Hubb. ex Bor	Cerastonki	Herb	NM	0.72	SUF 012	NE
	Alloteropsis cimicina (L.) Stapf	Alotaracina	Herb	NM	0.57	SUF 038	NE
	Axonopus compressus (Sw.) P.Beauv	Carpet ghas	Herb	M	1.43	SUF 084	NE
	Bambusa bambos (L.) Voss	Ban bans	Herb	M	0.75	SUF 087	NE
	Bambusa burmanica Gamble	Mitinga bans	Herb	NM	0.68	SUF 088	NE
	Bambusa tulda Roxb.	Baijja	Herb	M	0.68	SUF 089	NE
	Bothriochloa bladhii (Retz.) S.T.Blake	Gandha Gourana	Herb	NM	0.50	SUF 100	NE
	Bothriochloa pertusa (L.) A.Camus	Barboda Ghas	Herb	NM	1.50	SUF 101	NE
	Brachiaria kurzii (Hook.f.) A.Camus	Kurokti ghas	Herb	NM	1.37	SUF 104	NE
	Brachiaria reptans (L.) C.A.Gardner & C.E.Hubb	Peraghas	Herb	NM	1.16	SUF 105	LC
	Chloris barbata Sw.	Bata ghas	Herb	NM	1.96	SUF 135	NE
	Chrysopogon zizanioides (L.) Roberty	Bena	Herb	M	0.39	SUF 140	NE
	Coix aquatica Roxb.	Dhanga gurgar	Herb	NM	0.44	SUF 160	NE
	Coix lacryma-jobi L.	Tojbi	Herb	M	0.57	SUF 161	NE
	Cymbopogon citratus (DC.) Stapf	Agnighas	Herb	M	0.32	SUF 190	NE
	Cynodon dactylon (L.) Pers	Durbaghass	Herb	M	1.36	SUF 191	NE
	Cyrtococcum oxyphyllum (Steud.) Stapf	Oxycocca ghas	Herb	NM	1.06	SUF 203	NE
	Cyrtococcum patens (L.) A.Camus var. patens	Patcocca ghas	Herb	NM	0.79	SUF 204	NE
	Dichanthium annulatum (Forssk.) Stapf	Loari	Herb	NM	0.93	SUF 224	NE

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	Dichanthium caricosum (L.) A.Camus	Detara	Herb	NM	1.50	SUF 225	NE
	Digitaria abludens (Roem. & Schult.) Veldkamp	Chirichira	Herb	NM	0.31	SUF 228	NE
	Digitaria bicornis (Lam.) Roem. & Schult.	Baikochira	Herb	NM	0.69	SUF 229	NE
	Digitaria ischaemum (Schreb.) Muhl.	Khude anguli ghas	Herb	NM	0.83	SUF 230	NE
	Digitaria sanguinalis (L.) Scop.	Mukurjoli	Herb	NM	0.47	SUF 231	LC
	Digitaria ternata (A.Rich.) Stapf	Nata ghas	Herb	NM	1.39	SUF 232	LC
	Echinochloa colona (L.) Link	Shama ghas	Herb	NM	0.36	SUF 254	LC
	Echinochloa crus-galli (L.) P.Beauv.	Gobra ghas	Herb	NM	0.26	SUF 255	LC
	Eleusine indica (L.) Gaertn.	Malangakuri	Herb	M	0.47	SUF 263	LC
	Eragrostis amabilis (L.) Wight & Arn.	Koni ghas	Herb	NM	1.16	SUF 269	NE
	Hackelochloa granularis (L.) Kuntze	Hekela ghas	Harb	NM	0.81	SUF 312	NE
	Hemarthria protensa Steud.	Chalia	Harb	NM	0.57	SUF 320	NE
	Melocanna baccifera (Roxb.) Kurz	Mulibash	Herb	NM	0.79	SUF 412	NE
	Oplismenus compositus (L.) P.Beauv.	Gohur durba	Harb	NM	0.76	SUF 448	NE
	Ottochloa nodosa (Kunth) Dandy	Voyal ghas	Harb	NM	0.83	SUF 453	NE
	Panicum notatum Retz	Panita ghas	Harb	NM	1.11	SUF 460	NE
	Panicum repens L.	Baranda ghas	Harb	NM	1.05	SUF 461	NE
	Paspalum conjugatum P.J.Bergius	Moisshya ghas	Harb	NM	1.16	SUF 463	LC
	Pogonatherum paniceum (Lam.) Hack.	Khudi bans	Harb	NM	0.97	SUF 483	LC
	Saccharum officinarum L.	Akh	Herb	M	0.31	SUF 524	NE
	Saccharum spontaneum L.	Kash	Herb	M	1.01	SUF 525	LC
	Thysanolaena maxima (Roxb.) Kuntze	Phuljharu	Herb	M	1.11	SUF 610	NE
Polygonaceae	*Ampelygonum chinense* (L.) Lindley	Mohicharan sak	Herb	NM	1.25	SUF 056	NE
	Antigonon leptopus Hook. & Arn.	Ananta lata	Climber	NM	0.09	SUF 066	NE
	Persicaria chinensis (L.) H. Gross	Chinese bishkatali	Herb	M	1.37	SUF 466	NE
	Persicaria hydropiper L.	Biskatali	Herb	M	0.52	SUF 467	LC
	Persicaria orientalis (L.) Spach	Bara panimarich	Herb	M	0.52	SUF 468	NE
	Polygonum plebeium R.Br	Chemti sag	Herb	NM	0.30	SUF 488	LC
	Rumex dentatus L.	Bon-palong	Herb	NM	0.56	SUF 522	NE
Polypodiaceae	*Pyrrosia nuda* (Giesenh.) Ching	Nudarossi	Epiphytes	NM	0.23	SUF 509	NE
	Colysis pedunculata (Hook. & Grev.) Ching	Unknown	Herb	NM	0.67	SUF 167	NE

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	Drynaria quercifolia (L.) J.Sm	Pankhiraj	Epiphytes	NM	0.27	SUF 249	NE
	Microsorum punctatum (L.) Copel.	Punctasorum fern	Epiphytes	NM	0.14	SUF 419	NE
	Pyrrosia adnascens (Sw.) Ching	Adnarossi fern	Epiphytes	NM	0.25	SUF 506	NE
	Pyrrosia flocculosa (D.Don) Ching	Flokurossi fern	Epiphytes	NM	0.39	SUF 507	NE
	Pyrrosia lanceolata (L.) Farw.	Atashirossi	Epiphytes	NM	0.36	SUF 508	NE
	Pyrrosia varia (Kaulf.) Farw	Varirossi	Epiphytes	NM	0.36	SUF 510	NE
Pontederiaceae	*Eichhornia crassipes* (Mart.) Solms	Kochuripana	Herb	M	2.63	SUF 259	NE
	Monochoria hastata (L.) Solms	Bara nukha, Kechor,	Herb	M	0.50	SUF 427	LC
Portulacaceae	*Portulaca oleracea* L.	Borolunia	Herb	M	0.36	SUF 489	LC
Pteridaceae	*Pteris vittata* L.	vitateris	Herb	M	0.97	SUF 034	LC
	Aleuritopteris bicolour (Roxb.) Freser-Jenk	Silver fern	Herb	M	0.49	SUF 499	NE
	Acrostichum aureum L.	Tiger fern	Herb	M	0.50	SUF 013	LC
	Pteris ensiformis Burm.f	Ensiteris	Herb	NM	1.23	SUF 497	NE
	Pteris pellucida C.Presl	Luciteris	Herb	NM	1.10	SUF 498	NE
Punicaceae	*Punica granatum* L.	Dalim	Shrub	M	0.16	SUF 505	LC
Rhamnaceae	*Ziziphus mauritiana* Lam.	Boroi	Tree	M	0.50	SUF 644	LC
	Ziziphus oenopolia (L.) Mill.	Bonboroi	Tree	NM	0.35	SUF 645	LC
Rosaceae	????????????????????	Kanta golap	Shrub	NM	0.07	SUF 520	NE
Rubiaceae	*Dentella repens* (L.) J.R.Forst & G.Forst.	Bhuipat	Herb	NM	0.50	SUF 212	LC
	Gardenia jesminoides J.Ellis	Gondhoraj	Tree	M	0.28	SUF 301	NE
	Haldina cordifolia (Roxb.) Ridsdale	Bangka	Tree	M	0.17	SUF 313	NE
	Hedyotis scandens Roxb.	Bish lata	Herb	M	0.44	SUF 315	NE
	Hyptianthera stricta (Roxb. ex Schult.) Wight & Arn.	Hyptian	Shrub	NM	0.07	SUF 335	NE
	Ixora coccinea L.	Rangan	Shrub	M	0.52	SUF 346	NE
	Ixora javanica (Blume) DC	Java rangan	Shrub	NM	0.07	SUF 347	LC
	Ixora nigricans R.Br. ex Wight & Arn	Kuthi rangan	Shrub	M	0.47	SUF 348	NE
	Morinda citrifolia L.	Banach	Shrub	M	0.07	SUF 429	NE
	Mussaenda roxburghii Hook.f	Silchaonri	Shrub	M	0.46	SUF 438	NE
	Mycetia longifolia (Wall.) Kuntz.	Mycetelon	Shrub	M	0.16	SUF 439	NE
	Neolamarckia cadamba (Roxb.) Bosser	Kadam	Tree	M	0.65	SUF 440	NE
	Oldenlandia corymbose	Khet Papra	Herb	M	0.52	SUF 446	NE
	Ophiorrhiza mungos L	Ghandhanakuli	Herb	M	0.52	SUF 447	NE
	Paederia cruddasiana Prain	Gandha-bhadali pata	Climber	NM	0.09	SUF 455	NE
	Paederia erecta Roxb.	Gandhabhaduli	climber	M	0.14	SUF 456	NE

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	Paederia foetida L.	Gandhabhaduli	Climber	M	0.39	SUF 457	NE
	Randia dumetorum (Retz.) Lam.	Mon kata	Herb	NM	0.86	SUF 512	NE
	Spermacoce articularis L.f	Atharogia	Herb	M	0.48	SUF 563	NE
	Spermacoce hispida L.	Pidajil	Herb	NM	1.19	SUF 564	NE
	Spermacoce latifolia Aubl	Ghuijil	Herb	NM	0.38	SUF 565	NE
	Spermacoce stricta L.f.	Bishmijil	Herb	NM	0.56	SUF 566	NE
	Spermacoce tenuior L.	Tenijil	Herb	NM	0.45	SUF 567	NE
	Meyna spinosa Roxb. ex Link	Moyena	Tree	M	0.09	SUF 415	NE
Rutaceae	*Aegle marmelos* (L.) Corr.	Bel	Tree	M	0.21	SUF 023	NT
	Citrus aurantiifolia (Christm.) Swingle	Lebu	Shrub	M	0.21	SUF 145	NE
	Citrus maxima (Burm.f.) Merr.	Jambura	Tree	M	0.28	SUF 146	LC
	Clausena heptaphylla (Roxb.) Wight & Arn. ex Steud	Pan mouri	Tree	M	0.24	SUF 147	NE
	Clausena suffruticosa (Roxb.) Wight & Arn.	Kalomaricha	Tree	NM	0.21	SUF 148	NE
	Glycosmis cymosa (Kurz) Narayan	Mosa majon	Shrub	NM	0.07	SUF 306	NE
	Glycosmis pentaphylla (Retz.) A.DC.	Ashsaora	Shrub	M	0.07	SUF 307	LC
	Limonia acidissima L.	Koethbel	Tree	M	0.35	SUF 375	NE
	Murraya koenigii (L.) Spreng	Chotokamini	Tree	M	0.43	SUF 433	NE
	Murraya paniculata (L.) Jack	Kamini	Tree	M	0.54	SUF 434	NE
	Paramignya scandens (Griff.) Craib	Bannebu	Tree	NM	0.24	SUF 462	NE
Salviniaceae	*Salvinia cucullata* Roxb. ex Bory	Indur kani	Herb	NM	0.34	SUF 526	LC
Santalaceae	*Santalum album* L.	Shet chandan	Tree	M	0.09	SUF 528	VU
Sapindaceae	*Allophylus cobbe* L.	Chita	Shrub	M	0.07	SUF 036	NE
	Allophylus villosus (Roxb.) Blume	Pashomchita	Shrub	M	0.07	SUF 037	NE
	Cyathula prostrata (L.) Blume	Shyontula	Herb	NM	0.36	SUF 187	NE
	Lepisanthes rubiginosa (Roxb.) Leenh	Rubiharina	Shrub	NM	0.07	SUF 370	LC
	Lepisanthes senegalensis (Poir.) Leenh	SAPINDACEAE	Tree	M	0.43	SUF 371	NE
	Lepisanthes tetraphylla (Vahl) Radlk.	Chariharina	Herb	NM	0.35	SUF 372	LC
	Litchi chinensis Sonn.	Lichu	Tree	M	0.32	SUF 383	NE
Sapotaceae	*Madhuca longifolia* (J.König ex L.) J.F.Macbr. var. longifolia	Mohua	Tree	M	0.24	SUF 397	NE
	Manilkara zapota (L.) P.Royen	Safeda	Tree	M	0.13	SUF 407	NE
	Mimusops elengi L.	Bokul	Tree	M	0.24	SUF 423	LC
Schizaeaceae	*Lygodium circinatum* (Burm.f.) Sw.	Golalata fern	Climber	M	0.37	SUF 392	NE
	Lygodium flexuosum (L.) Sw.	Saralata fern	Climber	M	0.49	SUF 393	NE
	Lygodium microphyllum (Cav.) R.Br.	Patilata fern	Climber	M	0.46	SUF 394	LC

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Scrophulariaceae	*Bacopa monnieri* (L.) Pennell	Brahmishak	Herb	NM	3.36	SUF 086	LC
	Dopatrium junceum (Roxb.) Buch.-Ham. ex Benth.	Binsowan	Herb	NM	0.31	SUF 246	LC
	Lindenbergia indica (L.) Vatke	Basonti	Herb	M	0.31	SUF 376	LC
	Lindernia antipoda (L.) Alston	Zai ghas	Herb	NM	0.27	SUF 377	LC
	Lindernia ciliata (Colsmann) Pennell	Vui	Herb	NM	0.50	SUF 378	NE
	Lindernia crustacea (L.) F.Muell	Chapra ghas	Herb	NM	1.37	SUF 379	LC
	Lindernia rotundifolia (L.) Alston	Tan chapra	Herb	NM	0.57	SUF 380	LC
	Microcarpaea minima (K.D.König ex Retz.) Merr	Lal manik	Herb	NM	0.72	SUF 417	LC
	Scoparia dulcis L.	Bandhone	Herb	M	1.03	SUF 535	NE
	Torenia asiatica L.	Asiantoren.	Herb	M	0.27	SUF 613	NE
	Torenia fournieri Linden ex E.Fourn	Neritoren	Herb	NM	0.28	SUF 614	NE
Selaginellaceae	*Selaginella ciliaris* (Ritz.) Spring	Katagenella	Herb	NM	0.42	SUF 536	NE
	Selaginella delicatula (Desv. ex Poir.) Alston	Lataginella	Herb	NM	0.37	SUF 537	NE
	Selaginella vaginata Spring	Nataginella	Herb	NM	0.57	SUF 538	NE
Smilacaceae	*Smilax ovalifolia* Roxb. ex D.Don	Kumari lata	Climber	M	0.16	SUF 553	NE
	Smilax zeylanica L.	Lonica lata	climber	M	0.24	SUF 554	NE
Solanaceae	*Capsicum annuum* L. var. annum	Kachamarich	Herb	NM	0.58	SUF 125	LC
	Cestrum nocturnum L.	Hasna hena	Shrub	NM	0.25	SUF 132	LC
	Datura metel L.	Dhutra	Shrub	M	0.07	SUF 209	NE
	Physalis minima L	Phutka	Herb	M	1.55	SUF 474	NE
	Solanum capsicoides All	Loma begun	Shrub	NM	0.07	SUF 555	NE
	Solanum melongena L.	Bagun	Shrub	M	0.07	SUF 556	NE
	Solanum nigrum L.	Futibegun	Herb	M	1.57	SUF 557	NE
	Solanum sisymbrifolium Lam.	Kanta begun	Herb	M	1.19	SUF 558	NE
	Solanum torvum Sw.	Tit begun	Shrub	M	0.64	SUF 559	NE
	Solanum virginianum L.	Kantikari begun	Shrub	M	0.09	SUF 560	NE
	Solanum xanthocarpum	kata begun	Shrub	NM	0.09	SUF 561	NE
	Withania somnifera (L.) Dunal	Aswagandha	Herb	M	0.31	SUF 635	DD
Sonneratiaceae	*Sonneratia apetala* Buch.-Ham.	Petakeora	Tree	NM	0.09	SUF 562	LC
Sterculiaceae	*Abroma augusta* (L.) L.f	Ulatkambol	Shrub	M	0.33	SUF 004	NE
	Byttneria aspera Colebr.	Nilbhutta	Climber	NM	0.08	SUF 111	NE
	Pterospermum acerifolium (L.) Willd	Moos	Tree	M	0.73	SUF 500	LC
	Pterospermum semisagittatum Buch.-Ham. ex Roxb.	Bara asar	Tree	M	0.13	SUF 501	NE
	Pterygota alata (Roxb.) R.Br	Buddha narike	Tree	M	0.21	SUF 502	NE

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	Sterculia foetida L.	Udal	Tree	M	0.47	SUF 573	NE
	Sterculia villosa Roxb.	Loma udal, Udal, Chala, Chandul.	Tree	M	0.09	SUF 574	NE
Strelitziaceae	*Ravenala madagascariensis* Sonn	Panthopadop	Herb	NM	0.52	SUF 514	LC
Taccaceae	*Tacca integrifolia* Ker Gawl.	Matimunda	Herb	M	0.57	SUF 595	NE
Thelypteridaceae	*Ampelopteris prolifera* (Retz.) Copel.	Lombo dheki shak	Herb	M	1.39	SUF 055	NE
	Christella appendiculata (C.Presl) Holttum	Kulatila	Herb	NM	0.50	SUF 136	NE
	Christella arida (D.Don) Holttum	Aritila	Herb	NM	0.50	SUF 137	NE
	Christella dentata (Forssk.) Brownsey & Jermy	Datitila (B).	Herb	NM	0.57	SUF 138	NE
Tiliaceae	*Brownlowia elata* Roxb	Moss	Tree	M	0.21	SUF 109	NE
	Corchorus aestuans L.	Ban-pat	Herb	M	0.76	SUF 171	NE
	Grewia nervosa (Lour.) Panigrahi	Asar	Tree	M	0.47	SUF 310	NE
	Grewia serrulata DC	Pichandi	Tree	M	0.28	SUF 311	NE
	Triumfetta pentandra A.Rich.	Andafetta	Herb	NM	0.34	SUF 623	NE
	Triumfetta rhomboidea Jacq	Bonokra	Shrub	M	0.09	SUF 624	NE
Ulmaceae	*Trema orientalis* (L.) Blume	Chikan	Tree	M	0.54	SUF 619	LC
Urticaceae	*Elatostema papillosum* Wedd	Silajhara	Herb	NM	0.67	SUF 261	NE
	Elatostema sesssile J.R.Forst. & J.G.Forst.	Sessijhara	Herb	NM	1.60	SUF 262	NE
	Laportea interrupta (L.) Chew	Bichuti, Chutra	Herb	NM	0.40	SUF 364	NE
	Pilea melastomoides (Poir.) Wedd.	Unknown	Shrub	NM	0.07	SUF 475	NE
	Pouzolzia hirta (Blume) Hassk.	Hirazolzi	Herb	M	1.03	SUF 492	NE
	Pouzolzia zeylanica (L.) Benn	Kullaruki	Herb	M	1.56	SUF 493	NE
	Sarcochlamys pulcherrima Gaudich	Korobi	Shrub	M	0.13	SUF 530	NE
Verbenaceae	*Callicarpa arborea* Roxb.	Bormala	Tree	M	0.13	SUF 121	LC
	Clerodendrum indicum (L.) Kuntze	Bamunhatti	Herb	M	0.57	SUF 152	NE
	Clerodendrum inerme (L.) Gaertn.	Kundali bhant	Shrub	M	0.07	SUF 153	NE
	Clerodendrum paniculatum L.	Panyin bhat	Shrub	NM	0.07	SUF 154	NE
	Clerodendrum viscosum Vent	Bhat	Shrub	M	0.41	SUF 155	NE
	Duranta erecta L.	Duranto	Shrub	NM	0.34	SUF 252	LC
	Gmelina arborea Roxb	Gamari, Gamar	Tree	M	0.69	SUF 308	LC
	Lantana camara L.	Lantana	Shrub	M	0.60	SUF 363	NE
	Lippia alba (P.Mill.) N.E.Br. ex Britt. & Wilson	Vui okra	Shrub	NM	0.07	SUF 382	NE
	Nyctanthes arbor-tristis L.	Sheuli	Tree	M	0.24	SUF 442	NE
	Premna esculenta Roxb	Lalana	Tree	M	0.28	SUF 494	NE

Family	Scientific name	Local Name	Habit	MV	IVI	Accn. No	Status of Occurence
	Tectona grandis L.f	Segun	Tree	M	0.54	SUF 600	NE
	Vitex negundo L.	Nishihda	Tree	M	0.39	SUF 631	LC
	Vitex peduncularis Wall. ex Schauer	Horina	Tree	M	0.32	SUF 632	LC
Vitaceae	*Ampelocissus barbata* (Wall.) Planch	Jarila-lahari	Climber	M	0.26	SUF 053	NE
	Ampelocissus latifolia (Roxb.) Planch	Gowalia-lata	Climber	M	0.12	SUF 054	NE
	Cissus adnata Roxb	Aliangalata	Climber	M	0.22	SUF 143	NE
	Cissus quadrangularis L.	Harjora	Herb	NM	0.69	SUF 144	NE
	Vitis trifolia L.	Tepata-lata	Climber	NM	0.09	SUF 633	NE
Woodsiaceae	*Diplazium esculentum* (Retz.) Sw	Dheki shak	Herb	NM	1.10	SUF 241	LC
Zingiberaceae	*Alpinia calcarata* (Haw.) Roscoe	Deshi chhoto elachi	Herb	M	0.44	SUF 042	NE
	Alpinia nigra (Gaertn.) B.L.Burtt	Jongli ada	Herb	M	0.83	SUF 043	LC
	Curcuma aromatica Salisb	Bon holud, Jongli haldi	Herb	M	1.16	SUF 181	NE
	Curcuma longa L.	Holud	Herb	M	0.36	SUF 182	DD
	Curcuma rubescens Roxb.	Rubi halud	Herb	NM	0.31	SUF 183	NE
	Curcuma zedoaria (Christm.) Roscoe	Shoti	Herb	M	0.44	SUF 184	DD
	Globba arracanensis Kurz	Arakan globba	Herb	NM	0.36	SUF 304	DD
	Hedychium coronarium J.König	Dolan chapa	Herb	M	0.28	SUF 314	DD
	Kaempferia galanga L.	Shugandha bach	Herb	NM	0.39	SUF 356	DD
	Zingiber zerumbet (L.) Roscoe ex Sm	Boj	Herb	M	0.86	SUF 643	DD

NB: NM-Non-medicinal, M-Medicinal.

Out of the recorded 120 families, dicotyledonous group dominated with the highest number of family (86) followed by monocotyledonous (20), pteridophytes (13) and gymnosperms (01), respectively (Table 2).

In dicotyledonous group, Euphorbiaceae appeared to be the largest family comprised of 33 species under 21 genera followed by Asteraceae consisted of 20 species under 18 genera, Rubiaceae with 24 species under 16 genera, Fabaceae with 28 species under 14 genera, Apocynaceae consisting 14 species under 11 genera, Verbenaceae with14 species in 10 genera, Acanthaceae with 11 species under 8 genera, Caesalpiniaceae consisting 17 species under 7 genera, Mimosaceae with 15 species under 7 genera and Lamiaceae with 11 specis under 7 genera.

In monocotyledonous group, Poaceae is the largest family having with 41 species under 27 genera followed by Araceae, Arecaceae, Zingiberaceae and so on (Table 3). Among the all recorded 120 families, the most dominant 10 families are Poaceae, Euphorbiaceae, Asteraceae, Araceae, Rubiaceae, Fabaceae, Arecaceae, Apocynaceae, Verbenaceae, and Acanthaceae respectively (Tabel 2). In Magnoliopsida, Euphorbiaceae appears to be the largest family having 33 species and 21 genera whereas, in Liliopsida, poaceae appears to be the largest family having 41 species and 27 genera. But in the Bangladesh Flora, Poaceae is the 1st largest family followed by Fabaceae, Orchidaceae, Rubiaceae, Asteraceae, Cyperaceae and Euphorbiaceae. In the Bangladesh Flora, Euphorbiaceae represented by 159 species and 50 genera and Poaceae by 342 species and 132 genera (Pasha and Uddin, 2013).

Table 3. Dominant Families of Dicotyledonous and monocotyledonous group.

Dicotyledonous Group			Monocotyledonous group		
Family	Genus	Species	Family	Genus	Species
Euphorbiaceae	21	33	Poaceae	27	41
Asteraceae	18	20	Araceae	17	29
Rubiaceae	16	24	Arecaceae	12	16
Fabaceae	14	28	Zingiberaceae	7	10
Apocynaceae	11	14	Orchidaceae	5	5
Verbenaceae	10	14	Cyperaceae	4	14
Acanthaceae	8	11	Commelinaceae	4	7
Caesalpiniaceae	7	17	Agavaceae	4	5
Mimosaceae	7	15	liliaceae	4	5

The largest genus of dicotyledons group holding fourteen species found in *Ficus* followed by *Sizygium* (nine species) *Desmodium* (eight species), *Senna, Ipomoea* and *Solanum* (seven species from each). On the other hand, in monocotyledons group, the genus *Cyperus* appeared to be the largest with ten species followed by *Digitaria* (five species), *Colocasia* and *Calamus* (four species from each), *Alocasia, Cleome, Musa* and *Bambusa* (three species of each).

In the Study area, *Bacopa monnieri* having an IVI value of 3.36% is dominant in the forest area, some co-dominant species are *Eichhornia crassipes* (2.63%), *Centella asiatica* (2.17%), *Mimosa pudica* (2.09%), *Cyperus laxus* (1.99%), *Chloris barbata* (1.96 %), *Mirabilis jalapa* (1.71%), *Musa ornata* (1.61%), *Elatostema sessile* (1.60%), *Solanum nigrum* (1.57%), *Pouzolzia zeylanica* (1.56%) accordingly (Table 2). The common species are *Axonopus compressus, Mikania*

micrantha, Sida acuta, Urena lobata, Solanum torvum, Adiantum philippense, Achyranthes aspera, Phyllanthus niruri, Ficus hispida, Euphorbia hirta, Lantana camara while *Coccinia grandis*. *Lippia alba, Clerodendrum inerme, Datura metel, Allophylus cobbe, Pandanus odorifer, Osbeckia stellate, Tinospora crispa, Tinospora cordifolia* and *Passiflora foetida* are rarely found in study area. This study also recorded some threatened and rare species for example, *Tinospora crispa, Diploclisia glaucescens, Tinospora cordifolia* and *Wrightia arborea* are threatened species (Ara et al., 2013) which are popular medicinal plant used by the local people. *Santalum album* L. is a rare species recorded from study area. Status of occrence have been determined by field observation and quadrat sampling of the area. Status of occurrence has been recorded for proper conservation management and sustainable utilization of the taxa which show 452 (70.08%) to be common, 180 (27.91%) as least concern, 9 (1.40%) as vulnerable, and 4 (0.62%) are found as near threatened in the study area. (Table 2). The survey enumerated only one gymnosperm *Cycas pectinata* from the Chattogram city area.

Habitat diversity

Among the vascular plants herbs represented by 293 (46%) species under 220 genera and 87 family, shrubs 102 (16%) species under 87 genera and 45 family, trees 176 (27%) under 127 genera and 62 family, climbers 59 (9%) under 53 genera and 34 family and epiphytes by 15 (2%) species under 14 genera and 10 family respectively. The habit diversity shows that herbaceous plants are dominating over shrubs, trees and Climbers (Fig. 2A and B) as also observed by others (Jashimuddin and Inoue, 2012; Uddin *et al.*, 2015; Faruque *et al.*, 2018; Malik *et al*, 2018; Gumisiriza *et al.*, 2019; Durso *et al.*, 2021)

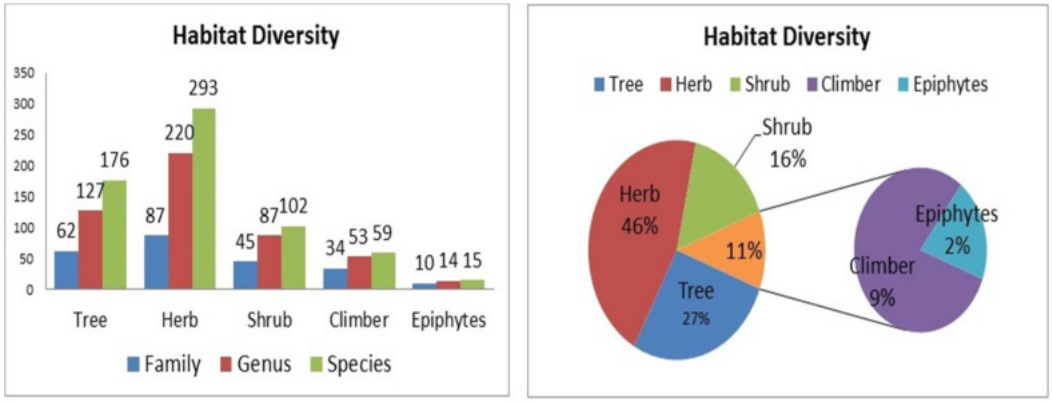

Fig. 2. Habitat diversity of the documented plant species

Exotic plants are deliberated as a great threat to the native biodiversity and ecosystems due to their deleterious influences on the existence and survival of indigenous plants and wildlife (Biswas *et al.*, 2007; Dutta *et al*., 2015). The present study clearly stated that several exotic plants have aggressive growth, also have negative impacts on the growth and development of native plant species. A number of well-established exotic tree species, i.e., *Acacia auriculiformis*, *Acacia mangium, Albizia richardiana*, *Dalbergia sisso* etc. and some noxious exotic weeds, e.g., *Chromolaena odorata*, *Mimosa pudica, Duranta erecta*, *Lantana camara* etc. were recorded from the plantation sites of different areas.

Medicinal and Non-medicinal

This Study recorded a total of 384 (60%)) medicinal plant species belonging to 277 genera under 93 families from the study area (Fig. 3) while other researchers recorded only 24 non-woody medicinal plants form Sulakbahar ward of Chattogram metropolitan area (Biswas *et al.*, 2021).

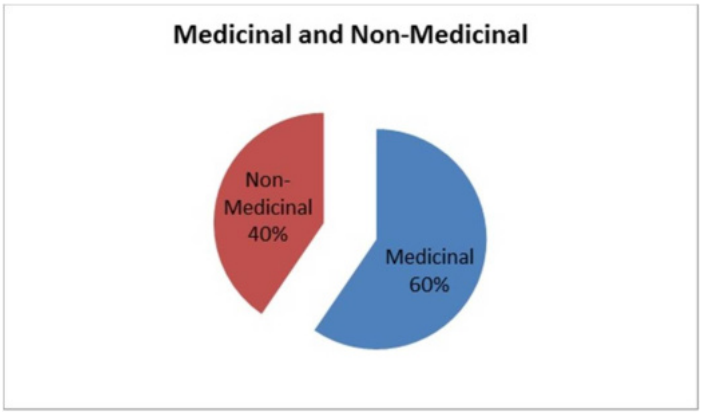

Fig. 3. Percentage of plants on the basis of their uses.

Diversity indices

The calculated magnitude of Shanon-Wiener index (3.03) of this study was 3.03 indicating indicates the presence of diverse vascular plants in comparable to the magnitudes of other studies conducted in community managed VCFs as well as government managed forests in Bangladesh. The calculated magnitude is lower than the other study in Bangladesh (Nath *et al.,* 2016a ; Chowdhury *et al.*, 2019; Jannat *et al.*, 2020; Rudra *et al.*, 2021) and comparabley higher than other (Rahman *et al.*, 2016) (Fig. 3). Contrariwise, lower Simpson's index of 0.05 was also on of the key indicator of presence of considerably diverse vegetation in the study areas, which close to the result for other reported VCFs and one government managed forest(Nath *et al.,* 2016b; Rahman *et al.*, 2016; Chowdhury *et al.*, 2019; Jannat *et al.*, 2020; Rudra *et al.*, 2021) (Fig. 4). Species evenness index was computed as 0.45 indicating that all species were almost evenly distributed. These outcomes also identical to Komolchori VCF in Khagrachori and Chunati Wildlife Sanctuary and markedly heterogenous to other two VCFs and BFD managed forest as demonstrated in Fig. 4. Phytosociological attributes and diversity indices showed elevated results compared to other studies reported from the BFD managed forests and community managed forest (Nath *et al.*, 2016b) which indicated that community induced forest management approach is more effective than the government managed forests. This variation in diversity indices among different forest type is attributable to alterations in species biomass, perturbations, and topographical factors. The community works in a collaborative way for the sustainable management of VCF and helps to grow stewardship among the community members. However, the population density in CHTs is very low compared to other parts of the country and this may be why they exist in rich diverse forest patches. On the other hands, population density in metropolitan area is comparatively higher than it's of CHTs. Aforementioned statistical analysis indicates that current research field namely Chattogram metropolitan hilly areas are still occupied with diversified vegetation and trees but yet there has been significant risk of degrading this diversity due to over growing population pressure, urbanization practices advent of modern technology, unplanned

forest management practice without involving local peoples, climate change and other factors. To maintain the current plant species variety, the extant plant species diversity richness should be protected by establishing an effective monitoring system and implementing a conservation strategy that is ecologically viable. Moreover, flora holds a pivotal role amongst each geographical area's natural wealth affluence. Thereby, plant biomass of any place delivers a concise illusion of floristic richness, that either may be convenient for formulating sustainable conservation and management strategies of biodiversity. Thus, the forthcoming sustainable protection strategy for the plant resources would be beneficiary to the affordable management and effective protection of the forest ecosystem.

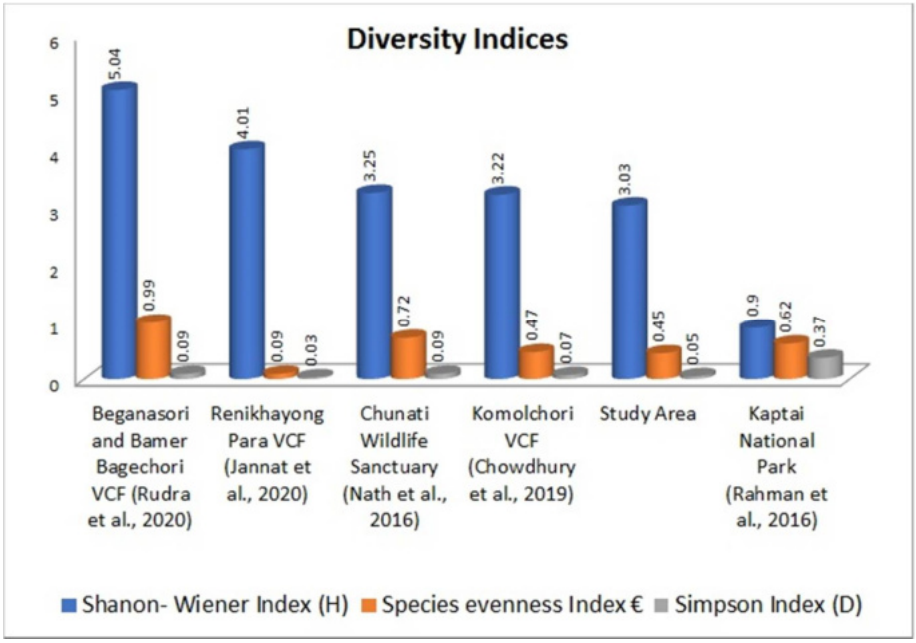

Fig. 4. Comparison of diversity Indices in this study (Chattogram Metropolitan Area) with that in other community managed Village Common Forests (VCF) and Bangladesh Forest Department (BFD) managed forests.

Conclusion

Forests play an important role as a lung of the whole world. Naturally growing forest resources distributed in Chattogram city are actively involved to run ecosystem properly and to keep balancing the abiotic and biotic components in a very organized way. For example, carbon sequestration is a long-term process to store/capture carbon from the atmosphere in plants organs through biological, chemical and physical processes, which play an important role to sustain the atmospheric temperature as well as reducing global warming. Likewise, to reduce landslide in the hilly regions, plantation could be a solution to overcome this issue. Therefore, it is urgently needed to record plant species found in the study area as many anthropogenic activities are actively participated for the deforestation process otherwise, we may lose important or new species forever from the study areas. However, this study provides potential sources to the environmental planners, herbalist, ecologist, taxonomists, ethnobotanists, pharmacists, phytochemists and local administration.

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