



Print ISSN: 0375-9237  
Online ISSN: 2357-0350

# EGYPTIAN JOURNAL OF BOTANY (EJBO)

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PUBLISHED BY



## Floristic composition and biodiversity patterns in the surroundings of Karnaphuli river areas of Bangladesh

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Plants are an important part of urban ecosystems because they help maintain the balance of nature and the health of the environment. The goal of the current study was to explore the vegetation in the Karnaphuli riverside using conventional biodiversity matrices, including the distribution of species and several diversity indices, like the Shannon-Winer Index, Pielou's Evenness Index, and Simpson's Index. A total of 528 plant species belonging to 376 genera under 115 families are documented for the first time in the studied area, among them 355 were medicinal plant species. Of them, 0.57% are bryophytes, 5.21% are pteridophytes, 0.19% are gymnosperms, and the rest, 95.95%, are angiosperms. Furthermore, Shannon-Winer, Pielou's Evenness, and Simpson's Diversity Index picturesque the presence of moderate level of diversity among evenly distributed individuals while confronting substantial risk. From the study areas, 6 threatened species have been recorded, which include 1 endangered species (EN), 2 nearly threatened species (NT), and 3 vulnerable species (VU). This study provides intrinsic potential resources to environmental planners, herbalists, ecologists, taxonomists, ethnobotanists, pharmacists, phytochemists, and local administration. It would help to plan for future green infrastructure and maintain ecosystem function, providing long-term benefits for the dwellers around the Karnaphuli River.

**Keywords:** Karnaphuli River, biodiversity, river pollution, threatened plants, ecosystem

### INTRODUCTION

Karnaphuli is one of the significant urban water bodies surrounding Chattogram city, Bangladesh. It originated in the Lushai Hills of Assam in India and eventually flows into the Bay of Bengal Ocean along Bangladesh's south-eastern coast (O'Mallery, 1908). This estuary is crucial for a variety of purposes, including navigation, port operations, transit, fishing, docking yards, ship building, and the industrial use of river water, all of which contribute significantly as a lifeline to Bangladesh's economic development (Siddique & Aktar, 2012; Dey et al., 2015). The wildlife and vegetation in this river are diverse. However, the outrageous rise in pollution caused by sewage, industrial effluences, and solid waste contaminating water is a result of anthropogenic factors (Hossain et al., 2005). Over 1000 large and small oil refineries, fertilizer plants, and shipbreaking industries circumscribe across both shorelines of Karnaphuli river. In addition, movement of more than 10,000 vessels per year; their wastes, and inhabitation of 6 million residents, producing 2500 metric tons of garbage, tainting the Karnaphuli river to a great extent. Consequently, a 2–7 m layer of river basin was constituted by the accumulation of microplastics that eventually pinpointed the desiderate absolute waste management practice and worsening scenario of ecological dynamics (Rakib et

al., 2022). Besides, huge amounts of toxic pollutants in the river and Bay of Bengal are threatening aquatic life, including wildlife, cattle, fish, and the riverine vegetation. Cabalistic dolphin deaths owing to these preceding pernicious events were the colossal aftermath thereof. The International Union for Conservation of Nature. (IUCN) has already categorized the dolphin as an endangered species. Our preliminary findings about the Boalkhali channel indicate that it is still a better signatory harbor for the dolphin than Sikholbaha, which is presently outlined with many promiscuous industries (data unpublished). The Karnaphuli region between Kalurghat and Patenga has the highest levels of pollution because of the numerous chemicals, fertilizer, iron and steel, leather, paint, clothing, food, cosmetics, toiletry, and pharmaceutical industries located on the river's banks or in the region's periphery (Hossen et al., 2019). On the other hand, the riverine vegetation has yet to be explored.

Even though the Karnaphuli River's heavy metals and water quality have both received a lot of attention (Sarwar et al., 1970; Alam 2013; Dey et al., 2017; Das et al., 2018), the literature is largely bereft on plant diversity. Only one study documented the vascular flora of the Karnaphuli River in the Rangamati district but did not cover most of the riverine areas and largely skipped polluted areas (Islam et al., 2018).

#### ARTICLE HISTORY

Submitted: March 01, 2024

Accepted: April 28, 2024

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DOI: 10.21608/ejbo.2024.207753.2318

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Keeping this as an insight, the present study sought to investigate the riverine vegetation's ecological, taxonomic, and therapeutic value; to identify the most polluted areas and causes of pollution. To the best of our knowledge, this would be a pioneering work to harness a new arena in the fields of environmental pollution and natural products research with Karnaphuli. Our findings will be useful towards the development of a national policy to reduce pollution to conserve rare and endangered species and to keep the whole ecosystem of the river in balance for the current and future generations.

## MATERIALS AND METHODS

### Study area

Karnaphuli River is a major water source in the Chittagong region of Bangladesh. Rising in the Lushai Hills of Mizoram state, northeastern India, it flows towards the south and southwest through the southeastern arm of Bangladesh to empty into the Bay of Bengal, 12 miles (19 km) south of the city of Chittagong. In the Chittagong Hill Tracts area, it is known as the Kynsa Khyung. We studied the surroundings of the Karnaphuli River to accumulate data on the floristic composition. We have studied 89 areas around Karnaphuli (Appendix 2), which is located between 22°19'28"N and 91°49'48"E to 22°30'00"E and 91°12'46"E. The average altitude of the plains typical height is 7 m above sea level. It has hot, humid summers and moderately cold winters due to tropical monsoons. The maximum summer temperature of the study area is 32.3°C, while minimum winter temperature is 13°C. The region receives 2400–3000 mm of rain annually (Hassan and Nazem, 2016). The World Air Quality Index 2020 showed that Bangladesh is a highly polluted country, with an annual mean PM<sub>2.5</sub> of 77.1 µg m<sup>-3</sup>, where Dhaka, Chattogram, Narayanganj, Khulna, and our study area had the highest atmospheric particulate matters (PM) concentrations (Begum and Hopke, 2018). On the other hand, pollution in Karnaphuli River is increasing day by day due to heavy industrialization. Other main sources of pollution, which threaten human health, are domestic trash, industrial and medical waste, burning oil, construction, and anthropogenic activities. For example, Ahmed and Reazuddin (2000) revealed that heavy metals in Karnaphuli river water directly affect fish physiology and human health through ingestion. Maps of the studied areas are presented in supplementary Figure 1.

### Documentation and collection of plantspecies

Many field studies were conducted from Patenga Point to Kaptai Area and along various channels (Sikolbaha, Kalurghat, Boalkhali, etc.) in three different seasons—summer, rainy season, and winter—to record the composition of the plants. Samples were taken from riverbanks, swamps, forest floors, forest edges, plains, streams, and rivers in the chosen areas. Collected plant specimens were processed for preparing herbarium specimens after being properly identified. The current nomenclature of each species was verified using online resources and a fundamental book published by Pasha and Uddin (Pasha & Uddin, 2013). Voucher specimens were prepared following standard herbarium technique and preserved at the Chittagong University Herbarium with an accession number. The field work was conducted between February 2021 and March 2022.

### Sampling Methods

A stratified random sampling method was used for the survey of the vascular plants; each site was divided into three zones based on topography (top, middle, and bottom slope). A total of 801 plots were taken from 89 different areas, with 3 plots from each zone. The sample plot size was 10m × 10m. All habit types of plant populations in each quadrat were recorded. The plot size and identification procedure followed the methods described at Rudra *et al.* (2021).

### Quantitative Framework

Primer V6 software was used to find the diversity indices and phytosociological characteristics of all the plots in the area being studied. Table 1 shows how a formula was used to figure out Shannon-Wiener's diversity index, Simpson's diversity index, and species evenness index, along with other important phytosociological values like relative density, relative frequency, relative abundance, and importance value index.

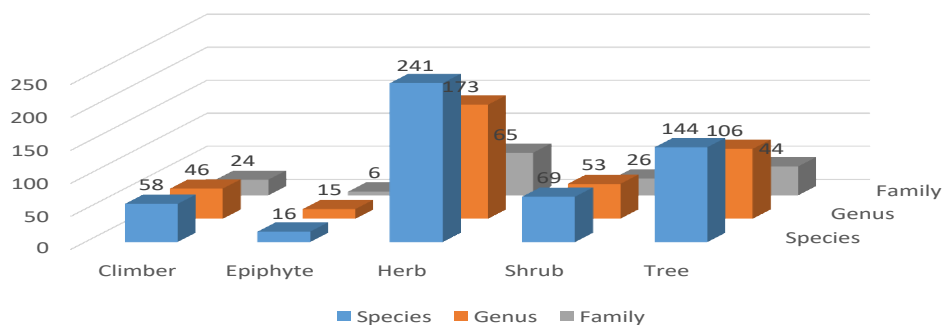
## RESULT

### Floristic composition

In this study, 89 places (Appendix 2) in the studied area were looked at for the presence of 525 vascular plant species from 373 genera and 113 families, as well as 3 non-vascular plant species from 3 genera and 2 families. Appendix 1 provides an inclusive summary of the identified plant species in the

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

Attributes	Equations	Citations	Variable interpretation
Frequency(x)	$x = \frac{a}{b}$	(Rudra et al., 2021)	a=Number of members of a certain species in each plot b=Total number of plots examined c=total number of plots where the species is found. n=A species' population size in number N=total number of individuals of all the species P=n/N S = total number of species
Abundance(y)	$y = a^c$	(Rudra et al., 2021)	
Relative Density(RD)	$RD = \frac{n}{N} \times 100$	(Dall meier et al., 1992)	
Relative Frequency(RF)	$RF = \frac{\sum Xi}{N} \times 100$	(Dall meier et al., 1992)	
Relative Abundance(RA)	$RA = \frac{\sum yi}{N} \times 100$	(Shukla and Chand, 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)	



**Figure 1.** Plant Habit diversity of the documented plant species.

research region, including family, scientific name, local name, habit, medicinal or non-medicinal properties, importance value index (IVI), accession number, and conservation status. The existing 497 species (95.95%) are angiosperms; aside from that, this composition evidently glorifies diverse bryophytic, pteridiophytic, and gymnospermic plant associations. The bryophytic flora indicated the presence of 3 (0.57%) species under 3 genera and 2 families, and 27 (5.21%) species under 19 genera and 14 families in pteridophytes, with the prevalence of single gymnosperm species. In Pteridophytes, Adiantaceae is the biggest family, with 5 species in 1 genus, followed by Pteridaceae, Dryopteridaceae, Dennstaedtiaceae, and so on, which consequently elucidated the homolog propensity in genus dominancy in families, noticeably *Adiantum*, *Pteris* (3 species), *Lygodium* (2 species), *Dryopteris* (2 species), and so on (Table 3). On the other hand, only three species under three genera in two families—Anthocerotaceae and Marchantiaceae were documented in Bryophytes, wherein Anthocerotaceae has two species under two genera (*Anthoceros* and *Dumortiera*), and Marchantiaceae contains one species under one genus (*Marchantia*). Of those angiosperms, the most dominant plant types were dicots occupied 379 (71.78%) species belonging to

270 genera over monocots 118 (22.35%) species under 22 genera and 83 families. Asteraceae, Euphorbiaceae, and Fabaceae visualized more interspecific and intraspecific plant variation within dicots, and Poaceae, Araceae, and Orchidaceae in monocots (Table 2). This antecedent multivariate diversify family adjuvant precedence is found throughout Bangladesh (Hossain et al., 2019; Ara et al., 2021; Jain et al., 2021; Rahman, 2021). *Ficus* is the largest genus in the dicotyledons group, with ten species. *Albizia* (six species), *Desmodium* (six species), *Solanum*, *Senna* and *Amaranthus* are the next largest genera (five species each). However, the genus *Cyperus*, on the other hand, appears to be the biggest in the monocotyledon group, with ten species, followed by *Dioscorea* (five species), *Colocasia*, *Alocasia*, *Musa*, *Saccharum*, and *Curcuma* (three species from each).

In the sampling sites, the vegetation is dominated by *Axonopus compressus*, with an IVI value of 3.15%; other co-dominant species include *Cuscuta reflexa* (2.92%), *Alternanthera paronychioides* (2.55%), *Pistia stariotes* (2.28%), *Cynodon dactylon* (2.27%), *Centella asiatica* (2.20%), *Cyathula prostrata* (2.03%), and *Acanthus ilicifolius* (2.01%). Whose most frequent species in the studied regions are herb species, such

as *Acanthus ilicifolius*, *Wedelia biflora*, *Acalypha indica*, *Actinocarpus grossus*, and *Cynodon dactylon* (Table 5), in contrast to *Aidia cochinchinensis*, *Amaranthus blitum* subsp. *oleraceus*, *Amaranthus tenuifolius*, *Amorphophallus bulbifer*, and *Ampelopteris prolifera*, which are comparatively rare (Table 6).

#### **Karnaphuli Riverside Vegetation's Diversity of Plant Habits**

Plant habit diversity shows that herbaceous plants have the most impact on ecosystems, with shrubs, trees, and climbers coming in second, third, and fourth, respectively (Figure 1). Whereas, in this context of botanical species, herbs make up 241 (45.64%) species under 173 genera and 65 families, shrubs make up 69 (13.1%), trees make up 144 (27.27%) under 106 genera and 44 families, climbers make up 58 (11%), under 46 genera, and 24 families, and epiphytes make up 16 (3.03%) species under 15 genera and 6 families, respectively.

#### **Medicinal and non-medicinal vegetation around the Karnaphuli River**

In this study, 355 (67.2%) of the medicinal plant species in the study area were found. They came from 271 genera and 91 families. On the other hand, 173 (32.8%) non-medicinal plant species were found. These plants belonged to 74 families and 174 genera (Table 4). Information on medicinal uses was deposited in our online repository database at mpbd.cu.ac.bd.

#### **Floristic diversity presence in the Karnaphuliriverside**

Utilizing diversity indices, which statistically combine different aspects of biodiversity into a single value, is a single method to determine the plant diversity structure in each community. In this study, the Shanon-Weiners index (H), one of the diversity index components, accounted for 3.57 while Simpson's Index (D) value was calculated at 0.27. and the species evenness index (E) value is 0.49 (Figure 2).

#### **Hierarchical cluster of the 20 dominant species and total plot studied in the Karnaphuli riverside**

To determine the number of clusters, we have produced a scree plot for the clusters (Supplementary Figure 1). Based on IVI, the recorded plant species can be divided into five hierarchical clusters (Appendix 1). Figure 3 depicts the hierarchical cluster of the 20 prominent species in the research region. *Axonopus compressus*, *Cuscuta reflexa*, *Oryza sativa*, and *Amaranthus tricolour* dominate the first cluster. The study's second leading plant cluster is *Lippia alba*,

*Euphorbia hirta*, *Alternanthera sessilis*, *Enhydra fluctuans*, and *Albizia chinensis*. The 3rd, 4th, and 5th groups contain the remaining plant species (Figure 3). Results postulated that all the recorded plantspecies are of natural origin, signifying the importance of the study area for native plant diversity protection and conservation. We also found considerable vascular species turnover between plant types along an elevation gradient (Figure 4), which indicates moderate species diversity in the study area. It appears that the studied region has modest species richness and plant types with almost different

#### **DISCUSSION**

The present study recorded a total of 528 plant species distributed to 376 genera for the first time in the studied area. Out of those, 355 plant species were used for their medicinal properties. Angiosperms were the most common type, followed by pteridophytes, bryophytes, and gymnosperms. Several diversity indices proved the presence of moderate-level diversity among evenly distributed individuals while confronting substantial risk. This study also recorded some threatened plantspecies from the study area. The literature is vastly lacking in the study area, as no mentionable work has been done in this area except for one study done by Islam et al., (2018). Their study recorded 128 species from a small fraction (Rangamati district) of the studied area, and a comparative evaluation of these findings with their study unearthed the slightly decreasing trend in gymnosperm and the incrementing specified frequency in pteridophytes, as the lower plants are depicted at present (Islam et al., 2018). The result of our study manifests the existence of diverse plant individuals over the Sundarban Mangrove Reserve Forest with respect to 182 species belonging to 135 genera under 59 families (Islam et al., 2016). At a global point of view, this number is a lucidly excellent comparison to the French Overseas Territories, mangroves of New Colombia, and Gbaga Channel mangroves (Akueson & Kévin, 2022). This preceding gymnospermic species, *Araucaria araucana* of the family Araucariaceae, had a relatively lower total number of mature individuals in comparison to the Chunati Wildlife Sanctuary, Sitakunda Botanical Garden, and Eco- Park, Chattogram (Hossain & Hossain, 2014; Biswas et al., 2021).

In the present study, herbaceous plants were dominant followed by shrubs, trees, and climbers. Similar results were observed by other researchers

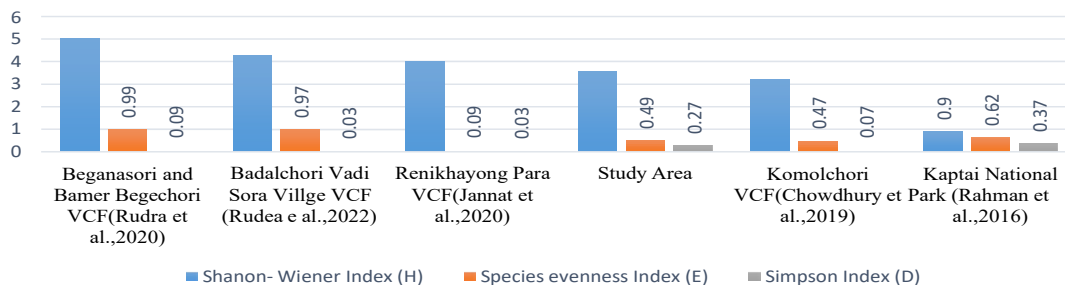


Figure 2. Comparison of diversity Indices in this study (Surroundings of Karnaphuli River) with that in other communitymanaged Village Common Forests (VCF) and Bangladesh Forest Department (BFD) managed forests.

Dendrogram using ward linkage

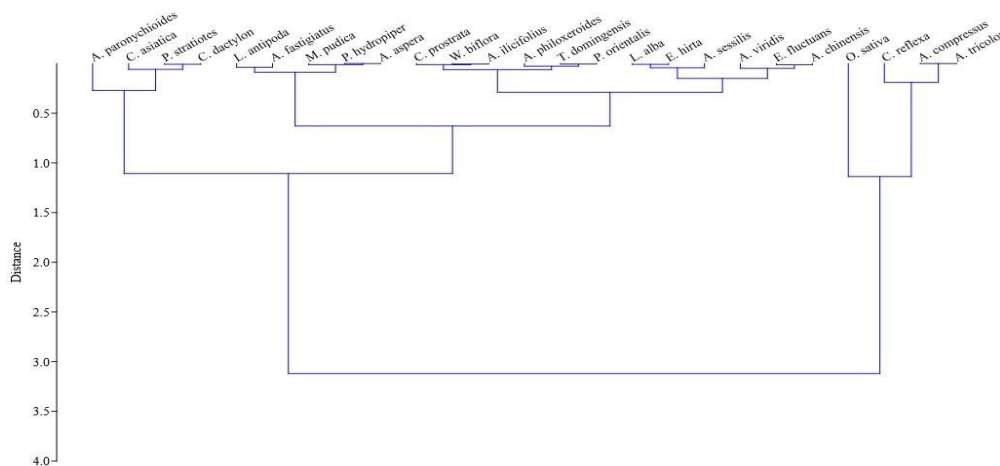


Figure 3. Hierarchical cluster of the 20 dominant species in the Karnaphuli riverside.

Dendrogram using ward linkage

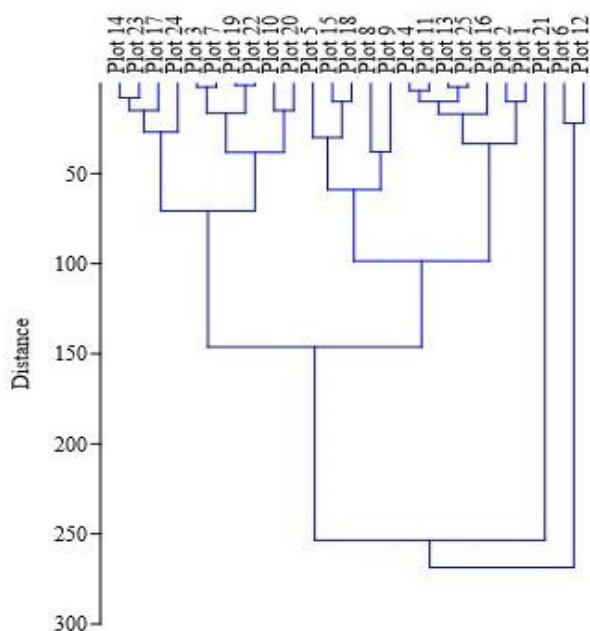


Figure 4. Hierarchical cluster of the total plot studied in the Karnaphuli riverside.

(Jashimuddin & Inoue, 2012; Faruque et al., 2018; Malik et al., 2018; Gumisiriza et al., 2019; Durso et al., 2021). To ascertain the number of plant species and their individual community heterogeneity in Karnaphuli riverside, we statistically determined the documented vegetation's diversity employing several frequently used diversity indices, namely the Shannon-Weiner index (H), Simpson's diversity (D), and Pielous' equatibility index or species evenness index (E). Estimation of 3.57 Shannon- Weiner index (H) in the study area representing the subsistence of average uniform individuals' apportionment within species having moderately amenable environmental conditions for survival. This diversity index is superior to two protected areas in Bangladesh, namely Kaptai National Park (0.9) (Rahman et al., 2016) and Komolochori Forest (3.22) (Chowdhury et al., 2018). Compared to Simpson's index (D), current study areas disclosed the existence of variable species forms with amplitude distribution of those species' individuals computing a 0.27 D value over several man managed forests in Khagrachari, Bandarban, and Rangamati (Jannat et al., 2020; Rudra et al., 2021, 2022), but

**Table 3.** Dominant Families of Dicotyledonous and monocotyledonous group.

Dicotyledonous Group			Monocotyledonous group		
Family	Genus	Species	Family	Genus	Species
Fabaceae	17	30	Poaceae	25	31
Euphorbiaceae	20	28	Araceae	12	19
Asteraceae	21	21	Cyperaceae	04	13
Caesalpiniaceae	09	15	Orchidaceae	10	11
Rubiaceae	14	14	Arecaceae	07	09
Mimosaceae	06	14	Zingiberaceae	03	06
Moraceae	05	12	Dioscoreaceae	01	05
Verbenaceae	09	13	Liliaceae	04	04
Malvaceae	05	12	ommelinaceae	03	04

**Table 4.** Dominant families of Pteridophytes group.

Family	Genus	Species
ADIANTACEAE	01	05
PTERIDACEAE	02	04
DRYOPTERIDACEAE	02	03
DENNSTAEDTIACEAE	02	02
SCHIZAEACEAE	01	02

**Table 5.** Percentage of medicinal and non-medicinal plants.

Unit	Medicinal	Non-Medicinal
Species	355	173
Genera	271	147
Family	91	74
Percentage	67.3%	32.7%

**Table 6.** List of some common species.

Scientific name	Frequency
<i>Acanthus ilicifolius</i> L.	72
<i>Wedelia biflora</i> (L.) DC.	72
<i>Acalypha indica</i> L.	64
<i>Actinoscirpus grossus</i> (L.f.) Goetgh. & D.A. Simpson	64
<i>Cynodon dactylon</i> (L.) Pers	64
<i>Cyperus rotandus</i> L.	64
<i>Mikania micrantha</i> Kunth	64
<i>Pongamia pinnata</i> (L.) Pierre	64
<i>Alternanthera sessilis</i> (L.) R.Br. ex DC.	60
<i>Commelina benghalensis</i> L.	60
<i>Mimosa pudica</i> L.	60
<i>Acacia auriculiformis</i> Benth.	56
<i>Alternanthera paronychioides</i> A. St.-Hil.	56
<i>Brachiaria reptans</i> (L.) C.A. Gardner & C.E. Hubb	56
<i>Erythrina fusca</i> Lour.	56

almost identical to Kaptai National Park (Rahman et al., 2016). There was a relatively uneven distribution of individuals from each species as well as greater abundance of a few species portrayed in these sites than in the preceding cited places, which reflected the presence of a significant detrimental factor as computed by the 0.47 species evenness index (E) (Figure 2). Although this diversity is almost comparable to that of the Sundarbans in terms of H value, the following statements hold true in terms of

**Table 7.** List of some rare species.

Scientific name	Frequency
<i>Aidia cochinchinensis</i> Lour.	2
<i>Amaranthus blitum</i> subsp. <i>Oleraceus</i> (L.) Costea	2
<i>Amaranthus tenuifolius</i> Willd.	3
<i>Amorphophallus bulbifer</i> (Roxb.) Blume	3
<i>Ampelopteris prolifera</i> (Retz.) Copel.	3
<i>Aquilaria agallocha</i> Roxb.	3
<i>Aristolochia indica</i> L.	3
<i>Arundina graminifolia</i> (D. Don) Hochr.	3
<i>Barleria lupulina</i> Lindl	4
<i>Bauhinia acuminata</i> L	4
<i>Benincasa hispida</i> (Thunb.) Cogn.	4
<i>Bischofia javanica</i> Blume	4
<i>Callicarpa arborea</i> Roxb.	4
<i>Camellia sinensis</i> (L.) Kuntze	4
<i>Cannabis sativa</i> L.	4

the relatively high values of the D and E index in the Sundarbans, demonstrating the evenly distributed individuals among species entities (Islam et al., 2016). The diversity matrices indicated above show that the current research area, the Karnaphuli riverside, is saturated by a variety of plants and trees, and they imply the presence of a real jeopardy of diversity degradation owing to biotic and abiotic forces. Moreover, IVI and the hierarchical cluster of the plant species poster the most naturally important and dominant species in the study area. Similar vegetation types and neighbouring sites may have similar plant diversity due to similar species composition, while extreme sites and dissimilar vegetation types may not share high species composition, which would lead to high diversity. Despite the spatial scale, topography and microclimatic changes can increase the plant diversity of some sites within the same vegetation types. Soil texture, elevation, and aspect affect 100% species composition replacement in the studied area. Geographical distance and microclimate play an important role in vascular plant diversity. Moreover, anthropogenic activities like deforestation, industrialization, solid waste, air pollution, water

pollution, and urbanisation could alter habitat conditions, destroying macro- and micro-vegetation in the study area, and our observation is corroborating with other studies done by other researchers (Moustafa et al., 2015; Nakahama, et al., 2015). Anthropogenic activities disturbed plant clusters to varying degrees and affected their floristic composition especially urbanisation, illegal structures on the banks, over-collection, and invasive species are cluster-averaged disruptions. This result was partly in agreement with others from a wide range of regions, including Abdelaal (Abdelaal, 2017) in Wadi Hagul, an affluent of the Cairo-Suez Road (Egypt); Abd El-Wahab (2016) in the Western Arabian Gulf of Kuwait; and Neji et al. (2018) in the Southern Mediterranean. Long-term disturbance by various anthropogenic activities will lead to destruction of the vegetation permanently, ultimately reducing biodiversity. Thus, a good monitoring system and eco-friendly conservation strategy can assist in recovering plant species.

During our field study, we observed that the Karnaphuli region between Kalurghat and Patenga has the highest levels of pollution because of the numerous anthropogenic and other activities, which was also reported by a previous study (Hossen et al., 2019). Other studies also reported that heavy metals and atmospheric particulate matters (PM) concentrations are abundant in the studied area (Ahmed and Reazuddin, 2000; Begum and Hopke, 2018). Interestingly, we observed that some plants, namely *Ipomoea fistulosa*, *Calotropis gigantea*, *Xanthium indicum*, *Coccinia grandis*, *Crateva magna*, *Solanum xanthocarpum*, *Alternanthera sessilis*, *Erythrina fusca*, *Casuarina equisetifolia*, *Borassus flabellifer*, *Areca catechu*, *Acacia auriculiformis*, etc., were found frequently in the most polluted areas.

## CONCLUSION

The vegetation around the river helps form river erosion and is also helpful for the dwellers of the surroundings of the river. This vegetation helps to run the ecosystem properly and balance the abiotic and biotic components in a very organized way. Karnaphuli River is full of industry, and that region lacks vegetation, so proper plants must be planted in the region to keep the environment balanced. For example, heavy metals are abundant in both the water and the sedimentation of the river, and lots of plants have been found that can survive well in this type of habitat. So, these types of plants can be planted here in this region. Yet we have a recorded

database containing 528 species around these rivers that may be degraded through anthropogenic activities. Some threatened species that are found in the area can be lost if we do not take proper steps. However, this study provides potential sources for environmental planners, herbalists, ecologists, taxonomists, ethnobotanists, pharmacists, phytochemists, and local administration.

## ACKNOWLEDGEMENTS

Authors expressed sincere gratitude to the local people for providing valuable information during this study.

## FUNDING

Research was funded by Effective Creation on Human Opinion (ECHO), a Non-government social development and research organization. Chattogram, Bangladesh.

## CONFLICT OF INTEREST

The authors declare no conflict of interest.

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Appendix 1. Comprehensive checklist of plant diversity recorded from Karnaphuli area.

Family	Scientific name	LocalName	Habit	MV	IVI	ACCN. NO.	IUCN Category
ACANTHACEAE	<i>Nelsonia canescens</i> (Lam.) Spreng.	Paramu	Herb	Yes	1.52	SUF 001	LC
	<i>Justicia gendarussa</i> Burm.f.	Nilnishinda	Herb	Yes	0.2	SUF 002	NE
	<i>Acanthus ilicifolius</i> L.	Hargoza	Shrub	Yes	2.01	SUF003	LC
	<i>Andrographis paniculata</i> (Burm.f.) Wall. ex Nees	Kalomegh	Herb	Yes	0.38	SUF 004	NE
	<i>Asystasia gangetica</i> (L.) T. Anderson	Gangatara	Herb	No	0.61	SUF 005	NE
	<i>Barleria lupulina</i> Lindl	Bishalla	Shrub	Yes	0.12	SU 006	NE
	<i>Lepidagathis incurve</i> Buch. Ham. ex D. Don	Karoggathis	Herb	No	0.42	SUF 007	NE
	<i>Rungia pectinata</i> (L.) Nees	Pindi	Herb	No	0.94	SUF 008	NE
	<i>Thunbergia grandiflora</i> (Roxb. ex Rottl.) Roxb.	Neel lata	Shrub	Yes	0.38	SUF 009	NE
ADIANTACEAE	<i>Adiantum capillus-veneris</i> L.	Venichadda	Herb	Yes	1.14	SUF010	LC
	<i>Adiantum philippense</i> L.	Kalijhat	Herb	Yes	1.21	SUF 011	NE
	<i>Adiantum caudatum</i> L.	Biddapata	Herb	Yes	0.66	SUF 012	NE
	<i>Adiantum flabellulatum</i> L.	China pakha	Herb	No	0.58	SUF013	NE
AGAVACEAE	<i>Adiantum tenerum</i> Sw.	Halka pakha	Herb	Yes	0.54	SUF 014	NE
	<i>Sansevieria trifasciata</i> Prain	Sapahara	Herb	Yes	0.32	SUF 015	NE
AMARANTHACEAE	<i>Achyranthes aspera</i> L.	Apang	Herb	Yes	1.66	SUF 016	NE
	<i>Alternanthera philoxeroides</i> (Mart.) Griseb.	Helencha, Hinchashak, Harahcho, Malancha shak.	Herb	No	2	SUF017	NE
	<i>Alternanthera sessilis</i> (L.) R.Br. ex DC.	Haicha	Herb	Yes	1.88	SUF 018	LC
	<i>Amaranthus spinosus</i> L.	Kantanotey	Herb	Yes	1.23	SUF 019	NE
	<i>Amaranthus tricolor</i> L.	Notey shak	Herb	Yes	3.75	SUF 020	NE
	<i>Amaranthus viridis</i> L.	Notey	Herb	Yes	1.76	SUF 021	NE
	<i>Aerva sanguinolenta</i> (L.) Blume	Nuriya	Herb	No	0.79	SUF 022	NE
	<i>Alternanthera paronychioides</i> A. St.-Hil.	Jhuli khata	Herb	Yes	2.55	SUF 023	NE
	<i>Amaranthus blitum</i> subsp. <i>oleraceus</i> (L.) Costea	Natiasag	Herb	Yes	0.71	SUF 024	NE
	<i>Amaranthus tenuifolius</i> Willd.	Data shak	Herb	Yes	0.06	SUF025	NE
AMARYLLIDACEAE	<i>Hymenocallis littoralis</i> (Jacq.) Salisb	Upakallis	Herb	No	0.58	SUF 026	NE
ANACARDIACEAE	<i>Lannea coromandelica</i> (Houtt.) Merr.	Bhadi	Tree	Yes	0.35	SUF 027	LC
	<i>Mangifera indica</i> L.	Aam	Tree	Yes	0.8	SUF028	DD
	<i>Spondias purpurea</i> L.	Deshi amra, Amra.	Tree	No	0.12	SUF 029	LC
ANNONACEAE	<i>Annona reticulata</i> L.	Nona ata	Tree	No	0.19	SUF 030	LC
	<i>Polyalthia longifolia</i> (Sonn.)Thwaites	Debdaru	Tree	Yes	0.48	SUF031	NE
ANTHOCEROTACEAE	<i>Anthoceros crispulus</i> (Mont.) Douin	Unknown	Herb	No	0.31	SUF 032	NE
APIACEAE	<i>Eryngium foetidum</i> L.	Bilati-dhone	Herb	Yes	1.02	SUF 033	NE
	<i>Centella asiatica</i> (L.) Urban	Thankuni	Herb	Yes	2.2	SUF 034	LC
APOCYNACEAE	<i>Allamanda cathartica</i> L.	Ghonta fhul	Shrub	Yes	0.32	SUF 035	NE
	<i>Alstonia neriifolia</i> D. Don	Soto chhatim	Tree	No	0.27	SUF 036	NE
	<i>Alstonia scholaris</i> (L.) R. Br	Chattim	Tree	Yes	0.21	SUF 037	LC
	<i>Holarrhena antidysenterica</i> (Roxb.ex Fleming) Wall. exA.DC.	Kuruj	Tree	Yes	0.23	SUF038	NE
	<i>Ichnocarpus frutescens</i> (L.) R. Br	Shamlata	Climber	Yes	0.58	SUF 039	NE
	<i>Plumeria alba</i> L.	Kat golap	Tree	Yes	0.06	SUF040	NE
	<i>Plumeria rubra</i> L.	Katgolap	Tree	Yes	0.09	SUF 041	LC
	<i>Tabernaemontana abbreviata</i> (J.F. Morales) A.O. Simões &M.E. Endress	Togarphul	Shrub	Yes	0.49	SUF 042	NE
	<i>Thevetia peruviana</i> (Pers.) K. Schum	Kolkeful	Tree	Yes	0.28	SUF 043	NE
	ARACEAE	<i>Alocasia acuminata</i> Schott	Pata bokakachu	Herb	Yes	0.85	SUF 044
<i>Alocasia cucullate</i> (Lour.) G. Don		Bishkachu	Herb	No	0.57	SUF 045	NE
	<i>Alocasia macrorrhizos</i> (L.) G. Don	Mankochu	Herb	Yes	0.42	SUF 046	NE
	<i>Amorphophallus bulbifer</i> (Roxb.) Blume	Jangli_ol	Herb	Yes	0.12	SUF 047	NE
	<i>Colocasia esculenta</i> (L.) Schott	Kochu	Herb	Yes	0.49	SUF 048	LC
	<i>Colocasia gigantea</i> (Blume) Hook.f.	Salad-kachu.	Herb	No	0.36	SUF 049	NE
	<i>Colocasia mannii</i> Hook.f	Manikachu	Herb	No	0.28	SUF 050	NE
	<i>Epipremnum aureum</i> (Linden & André) G.S. Bunting	Money plant	Climber	No	0.35	SUF 051	NE
	<i>Epipremnum pinnatum</i> (L.) Engl	Premnum	Climber	Yes	0.33	SUF 052	NE
	<i>Lasia spinosa</i> (L.) Thwaites	Kattosh	Herb	Yes	0.49	SUF 053	LC
	<i>Pistia stratiotes</i> L.	Topapana	Herb	Yes	2.28	SUF 054	LC
	<i>Pothos chinensis</i> (Raf.) Merr.	Chinalata	Climber	Yes	0.4	SUF 055	NE
	<i>Pothos scandens</i> L.	Hatilata	Epiphytes	Yes	0.48	SUF 056	NE
	<i>Scindapsus officinalis</i> (Roxb.)Schott	Goj pipul	Climber	Yes	0.38	SUF057	NE

	<i>Stuednera colocasiifolia</i> K. Koch	Bishkachu	Herb	Yes	0.55	SUF 058	NE
	<i>Syngonium macrophyllum</i> Engl.	Baroslataka chu	Climber	No	0.58	SUF 059	NE
	<i>Syngonium podophyllum</i> Schott	Podolatakachu	Herb	Yes	0.69	SUF060	NE
	<i>Typhonium trilobatum</i> (L.) Schott	Ghikochu	Herb	Yes	0.66	SUF 061	NE
	<i>Xanthosoma sagittifolium</i> (L.) Schott	Dudhkachu	Herb	No	0.38	SUF 062	NE
ARALICEAE	<i>Schefflera elliptica</i> (Blume)Harms	Dahina scefler	Shrub	Yes	0.06	SUF063	LC
	<i>Trevesia palmata</i> (Roxb. Ex Lindl.) Vis.	Argoja	Tree	Yes	0.06	SUF 064	LC
ARAUCARIACEAE	<i>Araucaria araucana</i> (Molina) K. Koch	Chrismass tree	Tree	No	0.18	SUF 065	EN
ARECACEAE	<i>Areca catechu</i> L.	Supari	Herb	Yes	0.45	SUF066	NE
	<i>Borassus flabellifer</i> L.	Tal	Herb	Yes	0.33	SUF 067	NE
	<i>Calamus floribundus</i> Griff.	Fulibet	Tree	No	0.41	SUF 068	NE
	<i>Calamus tenuis</i> Roxb.	Bet	Tree	Yes	0.43	SUF 069	LC
	<i>Caryota mitis</i> Lour.	Mithagota	Herb	No	0.58	SUF 070	LC
	<i>Cocos nucifera</i> L.	Narikel	Herb	Yes	0.72	SUF 071	NE
	<i>Livistona chinensis</i> (Jacq.) R.Br. ex Mart	China tokopata	Herb	No	0.06	SUF 072	NE
	<i>Phoenix sylvestris</i> (L.) Roxb.	Khajur	Herb	Yes	0.51	SUF 073	NE
	<i>Calamus viminalis</i> Willd.	Jatbet	Climber	No	0.39	SUF 074	NE
ARISTOLOCIACEAE	<i>Aristolochia indica</i> L.	Isharmul	Climber	Yes	0.12	SUF 075	NE
ASCLEPIADACEAE	<i>Asclepias curassavica</i> L.	Kakturi	Herb	No	0.65	SUF 076	NE
	<i>Calotropis gigantea</i> (L.) Ait.f.	Akanda	Shrub	Yes	0.37	SUF 077	NE
	<i>Hoya parasitica</i> (Roxb.) Wall. ex Wight	Serapatahoy a, Chera pata (Raj-Khul).	Epiphytes	Yes	0.3	SUF 078	NE
	<i>Hemidesmus indicus</i> (L.) R. Br. ex Schult.	Anantamu	Climber	No	0.67	SUF 079	NE
ASTERACEAE	<i>Ageratum conyzoides</i> (L.) L.	Fulkuri	Herb	Yes	1.35	SUF080	NE
	<i>Blumea lacera</i> (Burm.f.) DC	Kuksunga	Herb	Yes	0.74	SUF 081	NE
	<i>Chromolaena odorata</i> (L.) R.M. King & H. Rob	Assamlata	Herb	Yes	1.25	SUF 082	NE
	<i>Crassocephalum crepidioides</i> (Benth.) S Moore	Duubbecrepi	Herb	Yes	0.86	SUF083	NE
	<i>Cyanthillium patulum</i> (Dryand. ex Dryand.) H. Rob	kukshim	Herb	No	0.44	SUF 084	NE
	<i>Eclipta prostrata</i> (L.) L.	Kalokeshi	Herb	No	0.71	SUF 085	LC
	<i>Emilia sonchifolia</i> (L.) DC. Ex DC	Sadimudi	Herb	Yes	1.25	SUF 086	NE
	<i>Enhydra fluctuans</i> Lour	Helencha	Herb	No	1.83	SUF 087	NE
	<i>Helianthus annuus</i> L.	Surjomukhi	Herb	No	0.54	SUF 088	LC
	<i>Mikania micrantha</i> Kunth	Toofainna lata	Climber	Yes	1.45	SUF 089	NE
	<i>Spilanthes acmella</i> (L.) L.	Marhatitiga	Herb	Yes	1.4	SUF 090	NE
	<i>Synedrella nodiflora</i> (L.) Gaertn	Relanodi	Herb	Yes	0.5	SUF 091	NE
	<i>Tagetes erecta</i> L.	Gendaphul	Herb	Yes	0.78	SUF 092	NE
	<i>Tridax procumbens</i> (L.) L.	Tridhara	Herb	Yes	1.39	SUF 093	NE
	<i>Vernonia patula</i> (Dryand.) Merr.	Shialmutra, Sada Debi.	Herb	Yes	1.08	SUF 094	NE
	<i>Wedelia montana</i> (Blume) Boerl.	Wadella	Herb	Yes	0.6	SUF 095	NE
	<i>Xanthium indicum</i> J. König. ex Roxb.	Ghagra	Herb	Yes	0.63	SUF 096	NE
	<i>Grangea maderaspatana</i> (L.)Bir.	Nemuti	Herb	No	0.43	SUF097	LC
	<i>Pseudelephantopus spicatus</i> (Juss. ex Aubl.) Rohr	Dog`s tongue	Herb	Yes	1.26	SUF 098	DD
	<i>Sphaeranthus indicus</i> L.	Murmoria	Herb	No	0.17	SUF 099	LC
	<i>Wedelia biflora</i> (L.) DC.	Wadella	Herb	Yes	2.01	SUF100	DD
BASELLACEAE	<i>Basella rubra</i> L.	Puishak	Climber	Yes	0.49	SUF 101	NE
BIGNONIACEAE	<i>Fernandoa adenophylla</i> (Wall.ex G. Don) Steenis	Dakrum	Tree	No	0.06	SUF 102	NE
	<i>Oroxylum indicum</i> (L.) Kurz	Thona	Tree	Yes	0.22	SUF103	NE
	<i>Stereospermum colais</i> (Buch. Ham. ex Dillw) Mabb	Dharmara	Tree	Yes	0.06	SUF 104	NE
BLECHNACEAE	<i>Blechnum orientale</i> L.	Oxi blekh	Herb	NO	0.49	SUF 105	NE
BOMBACACEAE	<i>Bombax ceiba</i> L.	Simul	Tree	Yes	0.52	SUF 106	LC
	<i>Bombax insigne</i> Wall.	Bon shimul	Tree	Yes	0.51	SUF 107	NE
BORAGINACEAE	<i>Ehretia acuminata</i> R.Br.	Punia, Punyam konda.	Tree	No	0.35	SUF108	LC
	<i>Heliotropium indicum</i> L.	Hatishur	Herb	Yes	0.58	SUF 109	NE
	<i>Cordia dichotoma</i> G. Forst.	Bohul	Tree	Yes	0.06	SUF 110	LC

BRASSICACEAE	<i>Rorippa indica</i> (L.) Hiern	Bansarisha	Herb	Yes	0.28	SUF 111	NE
	<i>Rorippa dubia</i> (Pers.) H. Hara	Dubasarisha	Herb	Yes	0.27	SUF 112	NE
BROMELIACEAE	<i>Ananus comosus</i> (L.) Merr.	Anaros	Herb	No	0.92	SUF 113	NE
BURSERACEAE	<i>Protium serratum</i> (Wall. ex Coelbr.) Engl.	Heru	Tree	No	0.06	SUF 114	NE
CAESALPINIACEAE	<i>Bauhinia acuminata</i> L.	Sada kanchan	Shrub	Yes	0.15	SUF 115	LC
	<i>Caesalpinia bonduc</i> (L.) Roxb.	Natai	Shrub	No	0.42	SUF 116	LC
	<i>Caesalpinia digyna</i> Rottler	Kochoi	Climber	Yes	0.41	SUF 117	NE
	<i>Cassia fistula</i> L.	Shonalu	Tree	Yes	0.37	SUF 118	LC
	<i>Cassia javanica</i> L.	Lalsonalu	Tree	Yes	0.48	SUF 119	LC
	<i>Delonix regia</i> (Hook.) Raf.	Krishnachura	Tree	Yes	0.26	SUF 120	LC
	<i>Peltophorum pterocarpum</i> (DC.)K. Heyne	Holud krishnachura	Tree	No	0.22	SUF121	NE
	<i>Saraca asoca</i> (Roxb.) Willd	Asok	Tree	Yes	0.26	SUF122	VU
	<i>Senna alata</i> (L.) Roxb.	Halud sena, Dadmardha n Delong pata.	Shrub	Yes	0.58	SUF123	LC
	<i>Senna hirsuta</i> (L.) H.S. Irwin & Barneby	Gandhosena	Herb	Yes	0.71	SUF 124	NE
	<i>Senna siamea</i> (Lam.) H.S. Irwin & Barneby	Minjiri	Tree	Yes	0.42	SUF 125	LC
	<i>Senna sophora</i> (L.) Roxb.	Kalkeshunda	Shrub	Yes	0.71	SUF126	NE
	<i>Senna tora</i> (L.) Roxb.	Terasena	Herb	Yes	0.99	SUF 127	NE
	<i>Tamarindus indica</i> L.	Tentul	Tree	Yes	0.4	SUF 128	LC
	<i>Chamaecrista mimosoides</i> (L.)Greene	Lazzobotiochaksu	Herb	No	1.28	SUF129	LC
CANNABACEAE	<i>Cannabis sativa</i> L.	Bhang	Herb	Yes	0.15	SUF 130	NE
CAPPARACEAE	<i>Cleome rutidosperma</i> DC.	Begunehurhurey	Herb	No	0.67	SUF 131	NE
	<i>Cleome viscosa</i> L.	Atha hurhuria	Herb	Yes	0.75	SUF132	NE
	<i>Crateva magna</i> (Lour.) DC.	Barun	Tree	Yes	0.37	SUF 133	NE
CARICACEAE	<i>Carica papaya</i> L.	Pepe	Herb	Yes	0.46	SUF 134	DD
CARYOPHYLLACEAE	<i>Polycarpon prostratum</i> (Forssk.)Asch. & Schweinf	Gimashak	Herb	Yes	1.51	SUF135	LC
CASUARINACEAE	<i>Casuarina equisetifolia</i> L	Jhau	Tree	Yes	0.35	SUF 136	LC
CHENOPODIACEAE	<i>Chenopodium album</i> L	Betoshok	Herb	No	0.68	SUF 137	NE
COMBRETACEAE	<i>Combretum indicum</i> (L.) De Filippis	Madhabi Lata	Climber	No	0.43	SUF 138	NE
	<i>Getonia floribunda</i> Roxb.	Geton lata	Climber	Yes	0.67	SUF 139	NE
	<i>Terminalia arjuna</i> (Roxb. ex DC.) Wight & Arn.	Arjun	Tree	Yes	0.31	SUF 140	NE
	<i>Terminalia bellirica</i> (Gaertn.)Roxb.	Bohera, Boira, Bora-gach.	Tree	Yes	0.09	SUF141	NE
	<i>Terminalia catappa</i> L.	Katbadam	Tree	Yes	0.38	SUF142	LC
	<i>Anogeissus lanceolata</i> (Wall. ex C.B. Clarke) Prain	Phul jhumuri gaas	Tree	No	1.14	SUF143	NE
COMMELINACEAE	<i>Amischotolype mollissima</i> (Blume) Hassk	Molisima	Herb	Yes	0.15	SUF144	NE
	<i>Commelina benghalensis</i> L.	Dholpata	Herb	Yes	1.25	SUF145	LC
	<i>Commelina diffusa</i> Burm.f.	Monayna kanshira	Herb	Yes	0.97	SUF146	LC
	<i>Floscopa scandens</i> Lour.	Khara gaith	Herb	Yes	0.56	SUF147	LC
CONVOLVULACEAE	<i>Ipomoea aquatica</i> Forssk	Kalmi	Herb	Yes	0.6	SUF148	LC
	<i>Ipomoea batatas</i> (L.) Poir	Misti alu	Climber	No	0.99	SUF149	DD
	<i>Ipomoea fistulosa</i> Mart. ex Choisy	Dholkalmi	Herb	No	0.84	SUF150	NE
	<i>Ipomoea pes-caprae</i> (L.) R.Br.	Chhagol kuri kalmi	Climber	Yes	0.711	SUF151	NE
	<i>Merremia vitifolia</i> (Burm.f.)Hallier f	Kormolata	Climber	Yes	0.59	SUF152	NE
	<i>Jacquemontia pentantha</i> G. Don	Montiantha	Climber	Yes	0.56	SUF153	NE
COSTACEAE	<i>Cheilocostus speciosus</i> (J. König) C. Specht	Banduki	Herb	Yes	0.49	SUF154	LC
CUCURBITACEAE	<i>Benincasa hispida</i> (Thunb.)Cogn.	Chalkumra	Climber	Yes	0.15	SUF155	NE
	<i>Coccinia grandis</i> (L.) Voigt	Telakucha	Shrub	Yes	0.35	SUF156	NE
	<i>Gymnopetalum chinense</i> (Lour.) Merr.	Bati jhinga	Climber	Yes	0.38	SUF157	NE
	<i>Momordica charantia</i> L.	Korolla	Climber	Yes	0.26	SUF158	NE
	<i>Trichosanthes cucumerina</i> L.	Bon chichinga	Climber	No	0.36	SUF159	NE
	<i>Cucurbita maxima</i> Duchesne	Mistikumra	Climber	Yes	0.29	SUF160	NE
	<i>Lagenaria siceraria</i> (Molina)Standl.	Lau	Climber	Yes	0.18	SUF161	NE
	<i>Momordica cochinchinensis</i> (Lo ur.) Spreng.	Kakrol	Climber	Yes	0.26	SUF162	NE
CUSCUTACEAE	<i>Cuscuta reflexa</i> Roxb.	Tarulata	Climber	Yes	2.92	SUF163	NE
CYATHEACEAE	<i>Cyathea manniana</i> Hook.	Silver fern	Herb	No	1.29	SUF164	LC
CYPERACEAE	<i>Actinoscirpus grossus</i> (L.f.) Goetgh., D.A. Simpson	Shipra	Herb	Yes	1.43	SUF165	LC
	<i>Cyperus compactus</i> Retz.	Bandorghasi	Herb	No	0.46	SUF166	LC
	<i>Cyperus corymbosus</i> Rottb.	Gola methi	Herb	No	0.5	SUF167	NE

	<i>Cyperus difformis</i> L.	Behua ghasi	Herb	No	0.61	SUF168	LC
	<i>Cyperus digitatus</i> Roxb.	Hath ghasi	Herb	No	0.61	SUF169	LC
	<i>Cyperus exaltatus</i> Retz.	Tata gashi	Herb	No	0.7	SUF170	LC
	<i>Cyperus imbricatus</i> Retz.	Barachucha ghas	Herb	No	0.64	SUF171	LC
	<i>Cyperus iria</i> L.	Iri ghasi	Herb	Yes	0.61	SUF172	NE
	<i>Cyperus kyllingiella</i> Larridon	Gothubi	Herb	No	0.69	SUF173	LC
	<i>Cyperus laxus</i> Lam.	Dhila ghasi	Herb	Yes	0.79	SUF174	NE
	<i>Cyperus rotandus</i> L.	Mutha	Herb	Yes	1.25	SUF175	NE
	<i>Fimbristylis quinquangularis</i> (Vahl) Kunth	Joyna	Herb	No	0.73	SUF176	LC
	<i>Kyllinga nemoralis</i> (J.R. Forst. &G. Forst.)	Subasinirbisa	Herb	Yes	0.67	SUF177	LC
	Dandy ex Hutch. & Dalziel						
DENNSTAEDTIACEAE	<i>Hypolepis punctata</i> (Thunb.)Mett.	Hypoly fern	Herb	NO	0.67	SUF178	NE
	<i>Microlepia speluncae</i> (L.)T. Moore	Fita dheki	Herb	No	0.49	SUF179	NE
DILLENIAEAE	<i>Dillenia indica</i> L.	Chalta	Tree	Yes	0.4	SUF180	LC
DIOSCOREA CEAE	<i>Dioscorea alata</i> L.	Chupri alu	Climber	Yes	0.36	SUF181	NE
	<i>Dioscorea belophylla</i> (Prain) Voigt ex Haines	Shora alu	Climber	Yes	0.42	SUF182	NE
	<i>Dioscorea bulbifera</i> L.	Banalu	Climber	Yes	0.54	SUF183	NE
	<i>Dioscorea esculenta</i> (Lour.) Burkill	Maitta alu	Climber	No	0.59	SUF184	NE
	<i>Dioscorea pentaphylla</i> L.	Jum alu	Climber	Yes	0.38	SUF185	NE
DIPTEROCARPACEAE	<i>Dipterocarpus turbinatus</i> Gaertn	Telia gorjan	Tree	Yes	0.25	SUF186	VU
	<i>Hopea odorata</i> Roxb.	Telsur	Tree	Yes	0.25	SUF187	VU
DRYOPTERIDACEAE	<i>Dryopteris chrysocoma</i> (Christ) C. Chr	Kriso fern	Herb	No	0.86	SUF188	NE
	<i>Dryopteris abbreviata</i> Newman	Raj dheki	Herb	Yes	0.84	SUF189	NE
	<i>Tectaria chattagramica</i> (C.B. Clarke) Ching	Chattagramitari dheki	Herb	No	0.67	SUF190	NE
EBENACEAE	<i>Diospyros blancoi</i> A. DC	Beelati gab	Tree	No	0.28	SUF191	NE
	<i>Diospyros malabarica</i> (Desr.) Kostel	Gab	Tree	Yes	0.41	SUF192	NE
ELAEOCARPACEAE	<i>Elaeocarpus floribundus</i> Blume	Jalpai	Tree	Yes	0.06	SUF193	NE
EUPHORBIACEAE	<i>Acalypha indica</i> L.	Biralhatchi,Muktajhuri,Sali kushhom.	Herb	Yes	0.76	SUF194	NE
	<i>Actephila excelsa</i> (Dalzell)Müll.Arg.	Lalsa	Shrub	Yes	0.61	SUF195	LC
	<i>Antidesma velutinolum</i> Blume	Pashmi salishiabuka	Shrub	Yes	0.17	SUF196	NE
	<i>Aporosa octandra</i> (Buch. Ham.ex D. Don) A.R. Vickery	Choto kechua	Tree	No	0.17	SUF197	LC
	<i>Astraea lobata</i> (L.) Klotzsch	Aa-sthu-neey	Herb	No	0.51	SUF198	NE
	<i>Bischofia javanica</i> Blume	Kanjai	Tree	Yes	0.12	SUF199	LC
	<i>Breynia vitis-idaea</i> (Burm.f.)C.E.C. Fisch.	Vita salpoti	Shrub	No	0.27	SUF200	LC
	<i>Bridelia retusa</i> (L.) A. Juss	Kantokushi,Kamkoi, Kantakoi, Heza.	Tree	Yes	0.38	SUF201	LC
	<i>Croton bonplandianus</i> Baill	Bankhira	Herb	Yes	0.5	SUF202	NE
	<i>Euphorbia hirta</i> L.	Ghaopata	Herb	Yes	1.92	SUF203	NE
	<i>Euphorbia thymifolia</i> L.	Swetkerui	Herb	No	1.24	SUF204	NE
	<i>Flueggea virosa</i> (Roxb. ex Willd.) Royle	Khaukra	Shrub	No	0.47	SUF205	LC
	<i>Glochidion multiloculare</i> (Rottler ex Willd.) Voigt.	Koishtuma	Shrub	No	0.38	SUF206	NE
	<i>Jatropha gossypifolia</i> L.	Lal bherenda	Shrub	Yes	0.6	SUF207	NE
	<i>Macaranga denticulata</i> (Blume) Müll.Arg	Bura	Tree	Yes	0.49	SUF208	LC
	<i>Macaranga peltate</i> (Roxb.) Müll.Arg	Pelta bura	Tree	No	0.49	SUF209	NE
	<i>Mallotus nudiflorus</i> (L.) Kulju & Welzen	Medda	Tree	Yes	0.63	SUF210	LC
	<i>Mallotus repandus</i> (Willd.) Müll.Arg	Gunti	Tree	No	0.18	SUF211	NE
	<i>Manihot esculenta</i> Crantz	Kasava	Shrub	Yes	0.38	SUF212	NE
	<i>Phyllanthus emblica</i> L.	Amloki	Tree	Yes	0.18	SUF213	LC
	<i>Phyllanthus niruri</i> L.	Vuiamla	Herb	Yes	0.58	SUF214	NE
	<i>Phyllanthus reticulatus</i> Poir	Chitki	Shrub	Yes	0.4	SUF215	LC
	<i>Phyllanthus sikkimensis</i> Müll.Arg.	Sikimamla	Shrub	No	0.19	SUF216	NE
	<i>Ricinus communis</i> L.	Verenda	Shrub	Yes	0.38	SUF217	NE
	<i>Suregada multiflora</i> (A. Juss.) Baill	Ban-naringa	Tree	Yes	0.06	SUF218	NE
	<i>Bridelia stipularis</i> (L.) Blume	Harinhara	Climber	Yes	0.51	SUF219	LC
	<i>Mallotus roxburghianus</i> Müll.Arg.	Nishputoli	Shrub	Yes	0.12	SUF220	NE
	<i>Shirakiopsis indica</i> (Willd.) Esser	Harua	Tree	No	0.06	SUF221	LC
FABACEAE	<i>Mucuna monosperma</i> Wight	Nata alkushi	Climber	Yes	0.06	SUF222	NE
	<i>Butea monosperma</i> (Lam.) Taub	Palas	Tree	Yes	0.34	SUF223	LC
	<i>Cajanus cajan</i> (L.) Millsp	Arhhar	Shrub	Yes	0.28	SUF224	NE
	<i>Clitoria ternatea</i> L.	Aparajita	Climber	Yes	0.12	SUF225	NE

	<i>Crotalaria juncea</i> L.	Shonpat	Herb	Yes	0.47	SUF226	NE
	<i>Crotalaria pallida</i> Aiton	Jhunjhuni	Herb	Yes	0.4	SUF227	NE
	<i>Crotalaria verrucosa</i> L.	Varu jhanjhani	Herb	Yes	0.27	SUF228	NE
	<i>Dalbergia sissoo</i> DC.	Shishoo	Tree	Yes	0.3	SUF229	LC
	<i>Dalbergia stipulacea</i> Roxb.	Dadbari	Tree	Yes	0.3	SUF230	LC
	<i>Dalbergia volubilis</i> Roxb.	Ankilata	Tree	Yes	0.26	SUF231	NE
	<i>Derris trifoliata</i> Lour	Kalilata	Climber	Yes	0.57	SUF232	NE
	<i>Desmodium concinnum</i> DC	Konsi modi	Shrub	No	0.45	SUF233	NE
	<i>Desmodium dichotomum</i> (Willd.) DC	Daghno modi	Herb	No	0.51	SUF234	NE
	<i>Desmodium gangeticum</i> (L.) DC.	Chalan	Shrub	Yes	0.4	SUF235	NE
	<i>Desmodium heterocarpon</i> (L.) DC.	Karpo modi.	Herb	Yes	0.49	SUF236	NE
	<i>Desmodium heterophyllum</i> (Willd.) DC.	Bon-motorsuti	Shrub	No	0.49	SUF237	NE
	<i>Desmodium triflorum</i> (L.) DC.	Kalaliya	Herb	Yes	0.67	SUF238	NE
	<i>Erythrina fusca</i> Lour.	Kanta mandar	Tree	No	0.76	SUF239	LC
	<i>Flemingia stricta</i> Roxb.	Charchara phan	Herb	Yes	0.44	SUF240	NE
	<i>Lablab purpureus</i> (L.) Sweet subsp. <i>purpureus</i>	Shim	Climber	Yes	0.35	SUF241	NE
	<i>Sesbania bispinosa</i> (Jacq.) W. Wight	Dhounja	Herb	No	0.15	SUF242	LC
	<i>Tephrosia purpurea</i> (L.) Pers	Sarpunkha	Shrub	Yes	0.35	SUF243	NE
	<i>Pongamia pinnata</i> (L.) Pierre	Koronja	Tree	Yes	0.89	SUF244	LC
	<i>Erythrina variegata</i> L.	Mandar	Tree	No	0.65	SUF245	LC
	<i>Pueraria phaseoloides</i> (Roxb.)Benth.	Bon shim	Climber	Yes	0.06	SUF246	NE
	<i>Pueraria tuberosa</i> (Willd.) DC.	Botrajineem	Climber	Yes	0.06	SUF247	NE
	<i>Vigna mungo</i> (L.) Hepper	Maskalay	Herb	Yes	0.85	SUF248	DD
	<i>Vigna unguiculata</i> (L.) Walp.	Barbati	Climber	Yes	0.48	SUF249	DD
FAGACEAE	<i>Quercus oxyodon</i> Miq.	Batna	Tree	No	0.06	SUF250	LC
	<i>Castanopsis tribuloides</i> (Sm.) A.DC.	Batna	Tree	No	0.31	SUF251	NE
LAMIACEAE	<i>Anisomeles indica</i> (L.) Kuntze	Gobura	Herb	Yes	0.2	SUF252	NE
	<i>Hyptis brevipes</i> Poit.	Gol tokma	Shrub	Yes	0.52	SUF253	NE
	<i>Hyptis suaveolens</i> (L.) Poit	Tokma	Herb	Yes	0.88	SUF254	NE
	<i>Leucas aspera</i> (Roth) Spreng	Shetodron	Herb	Yes	0.83	SUF255	NE
	<i>Ocimum sanctum</i> L.	Tulshi	Herb	Yes	0.25	SUF256	NE
	<i>Plectranthus amboinicus</i> (Lour.) Spreng	Patharchur	Herb	Yes	0.38	SUF257	NE
	<i>Pogostemon auricularius</i> (L.) Hassk.	Aripachuli	Herb	Yes	0.37	SUF258	NE
LAURACEAE	<i>Actinodaphne gullavara</i> (Buch. Ham. ex Nees) M.R. Almeida	Modon mosta	Tree	No	0.38	SUF259	LC
	<i>Litsea monopetala</i> (Roxb.) Pers	Bara kukurchita	Tree	Yes	0.23	SUF260	LC
	<i>Litsea salicifolia</i> (Roxb. ex Nees) Hook.f	Borosialbuk a	Shrub	No	0.06	SUF261	LC
LECYTHIDACEAE	<i>Barringtonia acutangula</i> (L.) Gaertn	Hijal	Tree	No	0.57	SUF262	LC
LEEACEAE	<i>Leea indica</i> Merr.	Kukurjhibba	Shrub	Yes	0.4	SUF263	LC
	<i>Leea macrophylla</i> Roxb. ex Hornem.	Hostikormo	Shrub	No	0.36	SUF264	NE
LILIACEAE	<i>Crinum asiaticum</i> L.	Barakanur	Herb	Yes	0.26	SUF265	NE
	<i>Curculigo racemosa</i> Ridl.	Talamuli	Herb	No	0.47	SUF266	NE
	<i>Molineria capitulata</i> (Lour.) Herb	Satipata	Herb	Yes	0.48	SUF267	NE
	<i>Pancreatium maritimum</i> L.	Bon rasun	Herb	Yes	0.38	SUF268	LC
	<i>Limnocharis flava</i> (L.) Buchenau	Letece pana	Herb	No	0.68	SUF269	NE
LIMNOCHARITACEAE	<i>Sphenomeris chinensis</i> (L.) Maxon		Herb	NO	0.85	SUF270	NE
LINDSAEACEAE	<i>Scurrula gracilifolia</i> (Schult.) Danser	Porgacha	Epiphyte	Yes	0.06	SUF271	NE
LORANTHACEAE	<i>Lagerstroemia speciose</i> (L.) Pers	Jarul	Tree	Yes	0.43	SUF272	NE
LYTHRACEAE	<i>Lawsonia inermis</i> L	Mendi	Shrub	Yes	0.12	SUF273	LC
	<i>Woodfordia fruticosa</i> (L.) Kurz	Dhaiphul	Shrub	Yes	0.17	SUF274	LC
	<i>Magnolia champaca</i> (L.) Baill.ex Pierre	Chapa, Champobon, Shornochapa, Champa.	Tree	Yes	0.3	SUF275	LC
MAGNOLIACEAE	<i>Michelia champaca</i> L.	champa	Tree	Yes	0.31	SUF276	LC
	<i>Hiptage benghalensis</i> (L.) Kurz	Madhobilata, Madubhlata.	Climber	No	0.47	SUF277	LC
MALPIGHIACEAE	<i>Abelmoschus esculentus</i> (L.) Moench	Bhendi	Herb	Yes	0.65	SUF278	NE
MALVACEAE	<i>Abelmoschus Manihot</i> (L.) Medik.	Bankarpas	Herb	No	0.43	SUF279	NE
	<i>Abelmoschus moschatus</i> Medik.	Kalokasturi	Herb	Yes	0.31	SUF280	NE
	<i>Hibiscus rosa-sinensis</i> L.	Joba	Shrub	Yes	0.42	SUF281	NE
	<i>Hibiscus sabdariffa</i> L. var. <i>sabdariffa</i>	Mesta	Shrub	Yes	0.39	SUF282	NE
	<i>Malvaviscus penduliflorus</i> DC.	Duli joba	Shrub	No	0.38	SUF283	NE
	<i>Sida acuta</i> Burm.f	Ban Methi	Shrub	Yes	0.49	SUF284	NE
	<i>Sida cordata</i> (Burm.f.) Waalkes	Zunka	Shrub	Yes	0.39	SUF285	NE
	<i>Sida cordifolia</i> L.	Shet-berela	Shrub	Yes	0.4	SUF286	NE
	<i>Urena lobata</i> L.	Banokra	Shrub	Yes	0.59	SUF287	LC
	<i>Urena sinuata</i> L.	Atapuram	Shrub	Yes	0.48	SUF288	NE
	<i>Hibiscus tiliaceus</i> var. <i>abutiloides</i> (Willd.)	Bhola	Tree	Yes	0.06	SUF289	NE

	Hochr. <i>Schumannianthus dichotomus</i> (Roxb.) Gagnep.	Pati-pata	Herb	Yes	1.54	SUF290	NE
MARANTACEAE	<i>Dumortiera hirsuta</i> (Sw.) Nees	Unknown	Herb	No	0.52	SUF291	NE
MARCHANTIACEAE	<i>Marchantia palmata</i> Reinw., Nees & Blume	Unknown	Herb	No	0.6	SUF292	NE
	<i>Marsilea minuta</i> L.	Susni sak	Herb	No	1.14	SUF293	LC
MARSILEACEAE	<i>Melastoma malabathricum</i> L.	Bontejpata	Shrub	Yes	0.76	SUF294	NE
MELASTOMACEAE	<i>Aphanamixis polystachya</i> (Wall.) R. Parker	Pitraj	Tree	Yes	0.33	SUF295	LC
MELIACEAE	<i>Azadirachta indica</i> A. Juss	Nim	Tree	Yes	0.3	SUF296	LC
	<i>Chukrasia tabularis</i> A. Juss	Chikrassi	Tree	Yes	0.33	SUF297	LC
	<i>Swietenia mahagoni</i> (L.) Jacq.	Mehgini	Tree	No	0.57	SUF298	NT
	<i>Toona ciliata</i> M. Roem.	Toon	Tree	Yes	0.06	SUF299	LC
	<i>Diploclisia glaucescens</i> (Blume) Diels	Sonatola	Climber	Yes	0.61	SUF300	NE
MENISPERMACEAE	<i>Stephania japonica</i> (Thunb.) Miers	Akandimanik	Climber	Yes	0.59	SUF301	NE
	<i>Tinospora cordifolia</i> (Willd.) Miers	Guloncho	Climber	Yes	0.48	SUF302	NE
	<i>Tinospora crispa</i> (L.) Hook.f. & Thomson	Bakaguloncho	Climber	Yes	0.4	SUF303	NE
	<i>Stephania glabra</i> (Roxb.) Miers	Thandamanik	Climber	Yes	0.25	SUF304	NE
	<i>Acacia auriculiformis</i> Benth	Akashmoni	Tree	No	0.65	SUF305	LC
MIMOSACEAE	<i>Acacia mangium</i> Willd.	Mangium	Tree	No	0.55	SUF306	LC
	<i>Acacia nilotica</i> (L.) Del. subsp. <i>indica</i> (Benth.) Brenan	Babla	Tree	Yes	0.53	SUF307	LC
	<i>Albizia chinensis</i> (Osbeck) Merr.	Chakuakoroi	Tree	Yes	1.81	SUF308	NE
	<i>Albizia lucidior</i> (Steud.) I.C. Nielsen	Sil-koroi	Tree	Yes	0.32	SUF309	NE
	<i>Albizia myriophylla</i> Benth.	Titulyakoroi	Tree	No	0.2	SUF310	NE
	<i>Albizia procera</i> (Roxb.) Benth.	Koroi	Tree	Yes	0.38	SUF311	LC
	<i>Albizia richardiana</i> (Voigt) King & Prain	Sada koroi	Tree	No	0.19	SUF312	NE
	<i>Albizia saman</i> (Jacq.) Merr	Raintree	Tree	No	0.38	SUF313	NE
	<i>Entada rheedii</i> Spreng	Gila	Climber	No	0.06	SUF314	NE
	<i>Leucaena leucocephala</i> (Lam.) de Wit	Epil-epil	Tree	No	0.22	SUF315	NE
	<i>Mimosa diplotricha</i> Sauvalle	Shadalajurikher	Herb	Yes	1.31	SUF316	NE
	<i>Mimosa pudica</i> L.	Lajjabati	Herb	Yes	1.67	SUF317	LC
	<i>Pithecellobium dulce</i> (Roxb.) Benth.	Khoibabla	Tree	Yes	0.15	SUF318	LC
	<i>Ficus ischnopoda</i> Miq.	Poda-dumur	Shrub	No	0.37	SUF319	LC
MORACEAE	<i>Artocarpus chama</i> Buch. Ham. ex Wall	Chapalish	Tree	No	0.29	SUF320	NE
	<i>Artocarpus heterophyllus</i> Lam.	Kanthal	Tree	Yes	0.47	SUF321	NE
	<i>Artocarpus lacucha</i> Buch. Ham	Deua	Tree	No	0.29	SUF322	NE
	<i>Ficus benghalensis</i> L.	Bot, Bangla-bot, Jhuribot.	Tree	Yes	0.17	SUF323	NE
	<i>Ficus benjamina</i> L.	Pakur	Tree	Yes	0.06	SUF324	LC
	<i>Ficus elastica</i> Roxb. ex Hornem	Para Rubber	Tree	No	0.28	SUF325	NE
	<i>Ficus hispida</i> L.f.	kak dumur	Tree	Yes	0.53	SUF326	LC
	<i>Ficus pumila</i> L.	Lata dumur	Tree	Yes	0.28	SUF327	NE
	<i>Ficus racemosa</i> L. var. <i>racemosa</i>	Jaga dumur	Tree	Yes	0.27	SUF328	LC
	<i>Ficus religiosa</i> L.	Pan bot	Tree	Yes	0.34	SUF329	NE
	<i>Ficus rumphii</i> Blume	Jhula kola	Herb	Yes	0.31	SUF330	NE
	<i>Ficus semicordata</i> Buch. Ham. ex J.E. Sm	Sadimadidumur	Tree	Yes	0.48	SUF331	LC
	<i>Streblus asper</i> Lour.	Shaora	Tree	Yes	0.63	SUF332	LC
MORINGACEAE	<i>Moringa oleifera</i> Lam	Sajna	Tree	Yes	0.32	SUF333	LC
MUSACEAE	<i>Musa itinerans</i> Cheesman	Atikola	Herb	No	0.09	SUF334	LC
	<i>Musa ornata</i> Roxb.	Ramkola, Pahari Kola, Ramanigi-kela.	Herb	Yes	0.2	SUF335	LC
	<i>Musa paradisiaca</i> L.	Bichi kola	Herb	Yes	0.26	SUF336	NE
MYRSINACEAE	<i>Ardisia colorata</i> Roxb.	Bangla oak	Epiphytes	No	0.29	SUF337	NE
	<i>Maesa indica</i> (Roxb.) A. DC	Deshiuni	Shrub	Yes	0.25	SUF338	LC
	<i>Maesa ramentacea</i> (Roxb.) A. DC	Moricha	Shrub	Yes	0.21	SUF339	LC
MYRTACEAE	<i>Corymbia citriodora</i> (Hook.) K.D. Hill & L.A.S. Johnson	Eucalyptus	Tree	Yes	0.36	SUF340	LC



	<i>Eucalyptus alba</i> Reinw	Eucalptus	Tree	No	0.55	SUF341	LC
	<i>Melaleuca leucadendron</i> (L.) L.	Caju puti	Tree	No	0.4	SUF342	NE
	<i>Psidium guajava</i> L.	Peyara	Tree	Yes	0.4	SUF343	LC
	<i>Syzygium amplexicaule</i> (DC.) N.P. Balakr.	Gutijam	Tree	No	0.12	SUF344	NE
	<i>Syzygium balsameum</i> (Wight) Wall. ex Walp	Butijam	Tree	No	0.21	SUF345	NE
	<i>Syzygium cumini</i> (L.) Skeels	Jam	Tree	Yes	0.33	SUF346	LC
	<i>Syzygium fruticosum</i> (Roxb.) DC.	Futijam	Tree	Yes	0.28	SUF347	NE
NYCTAGINACEAE	<i>Bougainvillea spectabilis</i> Willd	Kagojphulgach	Tree	No	0.17	SUF348	NE
ONAGRACEAE	<i>Ludwigia adscendens</i> (L.) Hara	Keshordam	Herb	No	1.18	SUF349	LC
	<i>Ludwigia hyssopifolia</i> (G. Don) Exell	Zaikura	Herb	Yes	1.15	SUF350	LC
OPHIOGLOSSACEAE	<i>Helminthostachys zeylanica</i> (L.) Hook.	Krimi fern	Herb	No	0.41	SUF351	NE
ORCHIDACEAE	<i>Acampe praemorsa</i> (Roxb.) Blatt. & McCann	Kandoriphol	Epiphytes	Yes	0.31	SUF352	NE
	<i>Cymbidium aloifolium</i> (L.) Sw	Tosabak	Epiphytes	Yes	0.23	SUF353	NE
	<i>Dendrobium aphyllum</i> (Roxb.) C.E.C. Fisch.	Fasiariam.	Epiphytes	Yes	0.29	SUF354	LC
	<i>Rhynchostylis retusa</i> (L.) Blume	Shial leza orchid	Epiphytes	No	0.26	SUF355	NE
	<i>Acampe ochracea</i> (Lindl.) Hochr.	Kampera	Epiphyte	Yes	0.36	SUF356	NE
	<i>Arundina graminifolia</i> (D. Don) Hochr.	Ghasphul	Herb	Yes	0.46	SUF357	NE
	<i>Bulbophyllum lilacinum</i> Ridl.	Bulboliso	Epiphyte	Yes	0.28	SUF358	NE
	<i>Geodorum densiflorum</i> (Lam.) Schltr.	Ghanofuli bhuifor	Epiphyte	Yes	0.26	SUF359	NE
	<i>Papilionanthe teres</i> (Roxb.) Schltr.	Paphoteri orchid	Epiphyte	No	0.25	SUF360	NE
	<i>Pholidota imbricata</i> Lindl.	Folidota	Epiphyte	Yes	0.06	SUF361	NE
	<i>Staurochilus ramosus</i> (Lindl.) Seidenf.	Torochi orchid	Epiphyte	No	0.25	SUF362	NE
OXALIDACEAE	<i>Averrhoa bilimbi</i> L.	Bilimbi	Tree	Yes	0.17	SUF363	NE
	<i>Averrhoa carambola</i> L.	Kamranga	Tree	Yes	0.15	SUF364	NE
PANDANACEAE	<i>Pandanus odorifer</i> (Forssk.) Kuntze	Keya	Shrub	Yes	0.42	SUF365	LC
PAPAVERACEAE	<i>Argemone aenea</i> Ownbey	Shialkanta	Herb	Yes	0.26	SUF366	NE
PASSIFLORACEAE	<i>Passiflora foetida</i> L.	Jumkolata	Climber	Yes	0.49	SUF367	NE
PEDALIACEAE	<i>Sesamum indicum</i> L.	Jonglilit	Herb	No	0.28	SUF368	NE
PIPERACEAE	<i>Peperomia pellucida</i> (L.) Kunth	Peperomia	Herb	Yes	0.38	SUF369	NE
	<i>Piper sylvaticum</i> Roxb.	Bon pan	Climber	Yes	0.2	SUF370	NE
POACEAE	<i>Acroceras tonkinense</i> (Balansa) C.E. Hubb. ex Bor	Cerastonki	Herb	No	0.82	SUF371	NE
	<i>Alloteropsis cimicina</i> (L.) Stapf	Alotaracina	Herb	No	0.93	SUF372	NE
	<i>Axonopus compressus</i> (Sw.) P. Beauv	Carpet ghas	Herb	Yes	3.15	SUF373	NE
	<i>Bambusa bambos</i> (L.) Voss	Ban bans	Herb	Yes	0.57	SUF374	NE
	<i>Bambusa tulda</i> Roxb.	Baijja	Herb	Yes	0.4	SUF375	NE
	<i>Bothriochloa bladhii</i> (Retz.) S.T. Blake	Gandha Gourana	Herb	No	0.78	SUF376	NE
	<i>Bothriochloa pertusa</i> (L.) A. Camus	Barboda Ghas	Herb	No	0.85	SUF377	NE
	<i>Brachiaria reptans</i> (L.)C.A. Gardner & C.E. Hubb	Peraghas	Herb	No	1.02	SUF378	LC
	<i>Chloris barbata</i> Sw.	Bata ghas	Herb	No	1.12	SUF379	NE
	<i>Coix aquatica</i> Roxb.	Dhangagurgar	Herb	No	0.36	SUF380	NE
	<i>Cynodon dactylon</i> (L.) Pers	Durbaghass	Herb	Yes	2.27	SUF381	NE
	<i>Cyrtococcum patens</i> (L.) A. Camus var. <i>patens</i>	Patcocca ghas	Herb	No	0.64	SUF382	NE
	<i>Dichanthium caricosum</i> (L.) A. Camus	Detara	Herb	No	0.84	SUF383	NE
	<i>Digitaria ischaemum</i> (Schreb.) Muhl.	Khude anguli ghas	Herb	No	0.58	SUF384	NE
	<i>Digitaria ternata</i> (A. Rich.) Stapf	Nata ghas	Herb	No	0.49	SUF385	LC
	<i>Imperata cylindrica</i> (L.) Raeusch.	Chhon	Herb	Yes	1.21	SUF386	NE
	<i>Melocanna baccifera</i> (Roxb.) Kurz	Mulibash	Herb	No	0.25	SUF387	NE
	<i>Oplismenus compositus</i> (L.)P. Beauv.	Gohur durba	Herb	No	1.33	SUF388	NE
	<i>Panicum repens</i> L.	Baranda ghas	Harb	No	0.67	SUF389	NE
	<i>Paspalum conjugatum</i> P.J. Bergius	Moisshyaghas	Harb	No	0.76	SUF390	LC
	<i>Pogonatherum paniceum</i> (Lam.)Hack.	Khudi bans	Herb	No	0.36	SUF391	LC
	<i>Saccharum officinarum</i> L.	Akh	Herb	Yes	0.38	SUF392	NE
	<i>Saccharum procerum</i> Roxb.	sirasawn	Herb	NO	0.68	SUF393	NE
	<i>Setaria glauca</i> (L.) P. Beauv.	Bonospoti ghas	Herb	NO	0.44	SUF394	NE
	<i>Thysanolaena maxima</i> (Roxb.) Kuntze	Phuljharu	Herb	Yes	1.36	SUF395	NE
	<i>Zea mays</i> L.	Bhutta	Herb	Yes	0.52	SUF396	LC
	<i>Andropogon fastigiatus</i> Sw.	Premkata	Herb	No	1.57	SUF397	NE
	<i>Oryza sativa</i> L.	Dhan	Herb	Yes	4.37	SUF398	NE
	<i>Phragmites karka</i> (Retz.) Trin. ex Steud.	Khakra ghas	Herb	Yes	1.15	SUF399	LC
	<i>Saccharum arundinaceum</i> Retz.	Tenga ghas	Herb	Yes	0.67	SUF400	NE
	<i>Setaria italica</i> (L.) P. Beauv.	Kawn	Herb	Yes	0.62	SUF401	NE
POLYGONACEAE	<i>Rumex maritimus</i> L.	Datipalong	Herb	NO	0.38	SUF402	NE
	<i>Persicaria chinensis</i> (L.) H. Gross	Chinese bishkatali	Herb	Yes	1.27	SUF403	NE
	<i>Persicaria hydropiper</i> L.	Biskatali	Herb	Yes	1.66	SUF404	LC

	<i>Persicaria orientalis</i> (L.) Spach	Bara panimarich	Herb	Yes	1.96	SUF405	NE
	<i>Polygonum plebeium</i> R.Br.	Chemti sag	Herb	No	0.61	SUF406	LC
	<i>Rumex dentatus</i> L.	Bon-palong	Herb	No	0.35	SUF407	NE
	<i>Persicaria lapathifolia</i> (L.) Delarbre	Lomosh-bishkatali	Herb	Yes	1.17	SUF408	LC
POLYPODIACEAE	<i>Pyrrosia nuda</i> (Giesenh.) Ching	Nudarossi	Epiphytes	No	0.65	SUF409	NE
	<i>Drynaria quercifolia</i> (L.) J. Sm	Pankhiraj	Epiphytes	No	0.68	SUF410	NE
PONTEDERIACEAE	<i>Eichhornia crassipes</i> (Mart.) Solms	Kochuripana	Herb	Yes	1.5	SUF411	NE
	<i>Monochoria hastata</i> (L.) Solms	Bara nukha, Kechor, Boropani kochu.	Herb	Yes	1.18	SUF412	LC
PORTULACACEAE	<i>Portulaca oleracea</i> L.	Borolunia	Herb	Yes	0.12	SUF413	LC
POTAMOGETONACEAE	<i>Potamogeton crispus</i> L.	Pata zhanchi	Herb	No	0.58	SUF414	LC
PTERIDACEAE	<i>Pteris vittata</i> L.	vitateris	Herb	Yes	1.05	SUF415	LC
	<i>Acrostichum aureum</i> L.	Tiger fern	Herb	Yes	1.01	SUF416	LC
	<i>Pteris ensiformis</i> Burm.f	Ensiteris	Herb	No	0.68	SUF417	NE
	<i>Pteris pellucida</i> C. Presl	Luciteris	Herb	No	0.58	SUF418	NE
RHAMNACEAE	<i>Ziziphus mauritiana</i> Lam.	Boroi	Tree	Yes	0.28	SUF419	LC
	<i>Ziziphus oenopolia</i> (L.) Mill.	Bonboroi	Tree	No	0.47	SUF420	LC
ROSACEAE	<i>Rosa chinensis</i> Jacq.	Kanta golap	Shrub	No	0.26	SUF421	NE
RUBIACEAE	<i>Aidia cochinchinensis</i> Lour.	Aidasi	Tree	Yes	0.06	SUF422	LC
	<i>Dentella repens</i> (L.) J.R. Forst & G. Forst.	Bhuipat	Herb	No	0.17	SUF423	LC
	<i>Haldina cordifolia</i> (Roxb.) Ridsdale	Bangka	Tree	Yes	0.25	SUF424	NE
	<i>Hedyotis scandens</i> Roxb	Bish lata	Herb	Yes	0.37	SUF425	NE
	<i>Ixora nigricans</i> R.Br. ex Wight & Arn	Kuthi rangon	Shrub	Yes	0.4	SUF426	NE
	<i>Mussaenda roxburghii</i> Hook.f.	Silchaonri	Shrub	Yes	0.79	SUF427	NE
	<i>Neolamarckia cadamba</i> (Roxb.) Bosser	Kadam	Tree	Yes	0.36	SUF428	NE
	<i>Ophiorrhiza mungos</i> L.	Ghandhanakuli	Herb	Yes	0.59	SUF429	NE
	<i>Paederia foetida</i> L.	Gandhabhaduli	Climber	Yes	0.58	SUF430	NE
	<i>Randia dumetorum</i> (Retz.) Lam.	Mon kata	Herb	No	0.06	SUF431	NE
	<i>Spermacoce hispida</i> L.	Pidajil	Herb	No	1.13	SUF432	NE
	<i>Lasianthus constrictus</i> Wight	Ati lasian	Shrub	No	0.06	SUF433	NE
	<i>Mitragyna parvifolia</i> (Roxb.) Korth.	Kelikadam	Tree	Yes	0.26	SUF434	NE
	<i>Spermacoce ocyroides</i> Burm.f.	Unknown	Herb	Yes	1.25	SUF435	NE
RUTACEAE	<i>Aegle marmelos</i> (L.) Corr.	Bel	Tree	Yes	0.31	SUF436	NT
	<i>Citrus maxima</i> (Burm.f.) Merr.	Jambura	Tree	Yes	0.26	SUF437	LC
	<i>Clausena heptaphylla</i> (Roxb.) Wight & Arn. ex Steud	Pan mouri	Tree	Yes	0.3	SUF438	NE
	<i>Glycosmis pentaphylla</i> (Retz.)A.DC.	Ashsaora	Shrub	Yes	0.47	SUF439	LC
	<i>Limonia acidissima</i> L.	Koethbel	Tree	Yes	0.06	SUF440	NE
	<i>Murraya koenigii</i> (L.) Spreng	Chotokamini	Tree	Yes	0.12	SUF441	NE
	<i>Murraya paniculata</i> (L.) Jack	Kamini	Tree	Yes	0.2	SUF442	NE
	<i>Paramignya scandens</i> (Griff.) Craib	Bannebu	Tree	No	0.06	SUF443	NE
	<i>Micromelum minutum</i> Wight & Arn.	Koroiphula	Tree	Yes	0.06	SUF444	LC
SAPINDACEAE	<i>Allophylus cobbe</i> L.	Chita	Shrub	Yes	0.17	SUF445	NE
	<i>Allophylus villosus</i> (Roxb.) Blume	Pashomchita	Shrub	Yes	0.14	SUF446	NE
	<i>Cyathula prostrata</i> (L.) Blume	Shyontula	Herb	No	2.03	SUF447	NE
	<i>Lepisanthes senegalensis</i> (Poir.) Leenh	SAPINDACEAE	Tree	Yes	0.35	SUF448	NE
	<i>Litchi chinensis</i> Sonn.	Lichu	Tree	Yes	0.29	SUF449	NE
	<i>Cardiospermum halicacabum</i> L.	Phutka	Climber	Yes	0.47	SUF450	LC
	<i>Erioglossum alliaceum</i> Zipp. ex Span.	Ritha	Tree	No	0.06	SUF451	NE
SAPOTACEAE	<i>Madhuca longifolia</i> (J. König ex L.) J.F. Macbr. var. longifolia	Mohua	Tree	Yes	0.09	SUF452	NE
	<i>Mimusops elengi</i> L.	Bokul	Tree	Yes	0.18	SUF453	LC
SCHIZAEACEAE	<i>Lygodium flexuosum</i> (L.) Sw.	Saralata fern	Climber	Yes	0.53	SUF454	NE
	<i>Lygodium microphyllum</i> (Cav.) R.Br.	Patilatafern	Climber	Yes	0.45	SUF455	LC
SCROPHULARIACEAE	<i>Bacopa monnieri</i> (L.) Pennell	Brahmishak	Herb	No	1.29	SUF456	LC
	<i>Lindenbergia indica</i> (L.) Vatke	Basonti	Herb	Yes	0.52	SUF457	LC
	<i>Lindernia antipoda</i> (L.) Alston	Zai ghas	Herb	No	1.62	SUF458	LC
	<i>Lindernia crustacea</i> (L.) F. Muell	Chapra ghas	Herb	No	1.42	SUF459	LC
	<i>Scoparia dulcis</i> L.	Bandhone	Herb	Yes	1.48	SUF460	NE
	<i>Torenia asiatica</i> L.	Asiantoren.	Herb	Yes	1.31	SUF461	NE
	<i>Limnophila rugosa</i> (Roth) Merr.	Bandha keshori	Herb	Yes	0.58	SUF462	LC
SELAGINELLACEAE	<i>Selaginella ciliaris</i> (Ritz.)Spring	Katagenella	Herb	No	0.6	SUF463	NE
SMILACACEAE	<i>Smilax zeylanica</i> L.	Lonica lata	climber	Yes	0.26	SUF464	NE
SOLANACEAE	<i>Capsicum annuum</i> L. var. <i>Annun</i>	Kachamarich	Herb	No	0.67	SUF465	LC
	<i>Datura metel</i> L.	Dhutra	Shrub	Yes	0.4	SUF466	NE
	<i>Physalis minima</i> L.	Phutka	Herb	Yes	0.49	SUF467	NE
	<i>Solanum capsicoides</i> All.	Loma begun	Shrub	No	0.4	SUF468	NE
	<i>Solanum melongena</i> L.	Bagun	Shrub	Yes	0.52	SUF469	NE
	<i>Solanum nigrum</i> L.	Futibegun	Herb	Yes	0.73	SUF470	NE
	<i>Solanum torvum</i> Sw.	Tit begun	Shrub	Yes	0.61	SUF471	NE
	<i>Solanum virginianum</i> L.	kata begun	Shrub	No	0.7	SUF472	NE

	<i>Solanum lycopersicum</i> L.	Tomato	Herb	Yes	0.5	SUF473	NE	
SONNERATIACEAE	<i>Sonneratia apetala</i> Buch. Ham.	Petakeora	Tree	No	0.62	SUF474	LC	
	<i>Duabanga grandiflora</i> (Roxb. ex DC.) Walp.	Bandorhola	Tree	Yes	0.06	SUF475	LC	
STERCULIACEAE	<i>Abroma augusta</i> (L.) L.f	Ulatkambol	Shrub	Yes	0.22	SUF476	NE	
	<i>Byttneria aspera</i> Colebr.	Nilbhutta	Climber	No	0.41	SUF477	NE	
	<i>Sterculia foetida</i> L.	Udal	Tree	Yes	0.2	SUF478	NE	
	<i>Sterculia villosa</i> Roxb.	Loma udal, Udal, Chala, Chandul.	Tree	Yes	0.09	SUF479	NE	
	<i>Pterygota alata</i> (Roxb.) R.Br.	Narikelibadam	Tree	No	0.06	SUF480	NE	
STYRACACEAE	<i>Styrax serrulatus</i> var. <i>vestitus</i> Hemsl.	Gham gach	Tree	No	0.06	SUF481	NE	
THEACEAE	<i>Camellia sinensis</i> (L.) Kuntze	Cha	Tree	Yes	0.71	SUF482	DD	
	<i>Schima wallichii</i> Choisy	Bonak	Tree	Yes	0.06	SUF483	LC	
THELYPTERIDACEAE	<i>Ampelopteris prolifera</i> (Retz.) Copel.	Lombo dheki shak	Herb	Yes	0.12	SUF484	NE	
	<i>Christella arida</i> (D. Don) Holttum	Aritila	Herb	No	0.4	SUF485	NE	
THYMELAEACEAE	<i>Aquilaria malaccensis</i> Lam.	Agar	Tree	Yes	0.12	SUF486	NE	
TILIACEAE	<i>Corchorus aestuans</i> L.	Ban-pat	Herb	Yes	0.32	SUF487	NE	
	<i>Grewia nervosa</i> (Lour.) Panigrahi	Asar	Tree	Yes	0.49	SUF488	NE	
	<i>Grewia serrulata</i> DC.	Pichandi	Tree	Yes	0.47	SUF489	NE	
	<i>Triumfetta rhomboidea</i> Jacq	Bonokra	Shrub	Yes	0.67	SUF490	NE	
	<i>Corchorus capsularis</i> L.	Pat	Herb	Yes	1.41	SUF491	NE	
TYPHACEAE	<i>Typha domingensis</i> Pers.	Chogla	Herb	Yes	1.97	SUF492	LC	
ULMACEAE	<i>Trema orientalis</i> (L.) Blume	Chikan	Tree	Yes	0.41	SUF493	LC	
	<i>Trema tomentosa</i> (Roxb.) H. Hara	Jiban	Tree	Yes	0.28	SUF494	LC	
URTICACEAE	<i>Boehmeria glomerulifera</i> Miq.	Borthurthuri	Herb	Yes	0.33	SUF495	NE	
	<i>Elatostema papillosum</i> Wedd	Silajhara	Herb	No	0.06	SUF496	NE	
	<i>Elatostema sessile</i> J.R. Forst. & J.G. Forst.	Sessijhara	Herb	No	0.06	SUF497	NE	
	<i>Laportea interrupta</i> (L.) Chew	Bichuti, Chutra, Lalbichuti.	Herb	No	0.57	SUF498	NE	
	<i>Pilea melastomoides</i> (Poir.) Wedd.	Unknown	Shrub	No	0.29	SUF499	NE	
	<i>Pouzolzia hirta</i> (Blume) Hassk.	Hirazolzi	Herb	Yes	0.37	SUF500	NE	
	<i>Pouzolzia zeylanica</i> (L.) Benn	Kullaruki	Herb	Yes	0.92	SUF501	NE	
	<i>Sarcochlamys pulcherrima</i> Gaudich	Korobi	Shrub	Yes	0.38	SUF502	NE	
	<i>Boehmeria penduliflora</i> Wedd. ex D.G. Long	Baroduli	Herb	Yes	0.38	SUF503	NE	
	<i>Pilea microphylla</i> (L.) Liebm.	Latamaricha	Herb	No	0.06	SUF504	NE	
	VERBENACEAE	<i>Callicarpa arborea</i> Roxb.	Bormala	Tree	Yes	0.06	SUF505	LC
		<i>Clerodendrum indicum</i> (L.) Kuntze	Bamunhatti	Herb	Yes	0.59	SUF506	NE
		<i>Clerodendrum inerme</i> (L.) Gaertn.	Kundali bhant	Shrub	Yes	0.47	SUF507	NE
<i>Clerodendrum paniculatum</i> L.		Panyin bhat	Shrub	No	0.38	SUF508	NE	
<i>Clerodendrum viscosum</i> Vent		Bhat	Shrub	Yes	1.16	SUF509	NE	
<i>Duranta erecta</i> L.		Duranto	Shrub	No	0.38	SUF510	LC	
<i>Gmelina arborea</i> Roxb.		Gamari, Gamri, Gamar, Gambari.	Tree	Yes	0.41	SUF511	LC	
<i>Lantana camara</i> L.		Lantana	Shrub	Yes	0.68	SUF512	NE	
<i>Lippia alba</i> (P. Mill.) N.E.Br. ex Britt., Wilson		Vui okra	Shrub	No	1.94	SUF513	NE	
<i>Phyla nodiflora</i> (L.) Greene		Vuiokra	Herb	Yes	0.37	SUF514	LC	
<i>Premna esculenta</i> Roxb.		Lalana	Tree	Yes	0.27	SUF515	NE	
<i>Tectona grandis</i> L.f.		Segun	Tree	Yes	0.67	SUF516	NE	
<i>Lippia nodiflora</i> (L.) Michx.			Herb	Yes	1.43	SUF517	LC	
VITACEAE	<i>Ampelocissus barbata</i> (Wall.) Planch	Jarila-lahari	Climber	Yes	0.25	SUF518	NE	
	<i>Cissus adnata</i> Roxb.	Aliangalata	Climber	Yes	0.2	SUF519	NE	
	<i>Cissus pentagona</i> Roxb.	Panchkonalata	Climber	Yes	0.26	SUF520	NE	
	<i>Tetrastigma angustifolium</i> (Roxb.) Planch.	Sarupati lata	Climber	Yes	0.28	SUF521	NE	
WOODSIACEAE	<i>Diplazium esculentum</i> (Retz.) Sw	Dheki shak	Herb	No	0.67	SUF522	LC	
ZINGIBERACEAE	<i>Alpinia calcarata</i> (Haw.) Roscoe	Deshi chhotoelachi	Herb	Yes	0.53	SUF523	NE	
	<i>Alpinia nigra</i> (Gaertn.) B.L. Burtt	Jongli ada	Herb	Yes	0.83	SUF524	LC	
	<i>Curcuma aromatica</i> Salisb	Bon holud, Jongli haldi, Bonowldi.	Herb	Yes	0.41	SUF525	NE	
	<i>Curcuma longa</i> L.	Holud	Herb	Yes	0.37	SUF526	DD	
	<i>Curcuma zedoaria</i> (Christm.) Roscoe	Shoti	Herb	Yes	0.12	SUF527	DD	
	<i>Hedychium coronarium</i> J. König	Dolan chapa	Herb	Yes	0.91	SUF528	DD	

**Appendix 2.** GPS location of study areas of Karnaphuli.

NAME OF THE LOCATION	GPS
Karnaphuli Ship Builders LTD	N : 22°19'28" E : 91°49'48"
Ship Dock Yard	N : 22°18'59" E : 91°49'26"
BCG Boat pool	N : 22°18'59" E : 91°49'26"
Boat maintenance workshop (east zone)	N : 22°18'59" E : 91°49'26"
SK group	N : 22°19'13" E : 91°48'46"
S. Alam Refined Sugar Industries	N : 22°19'13" E : 91°48'46"
Dimond Cement Factory, Icha nagar/ Dimond nagar	N : 22°19'08" E : 91°48'40"
Premier Cement Factory, Icha nagar/ Dimond nagar	N : 22°19'08" E : 91°48'40"
Brick field- 2 (Dimond er), Icha nagar/ Dimond nagar	N : 22°18'33" E : 91°48'40"
Min Fish traders, Icha nagar/ Dimond nagar	N : 22°18'34" E : 91°48'46"
kalamia er chang, Icha nagar/ Dimond nagar	N : 22°18'34" E : 91°48'46"
Shah Alauddin chang, Icha nagar/ Dimond nagar	N : 22°18'34" E : 91°48'46"
Site for AKH group	N : 22°18'19" E : 91°47'40"
Jundha Power Plant	N : 22°18'19" E : 91°47'40"
SATTL	N : 22°17'58" E : 91°47'40"
Star Cement	N : 22°17'58" E : 91°47'40"
Unique Refinery LTD	N : 22°17'20" E : 91°47'44"
Partex petro	N : 22°17'20" E : 91°47'44"
Super petro chemical LTD	N : 22°17'20" E : 91°47'44"
HM steel	N : 22°16'20" E : 91°48'41"
Amanat Shah Agro and Rahmana Agro	N : 22°16'20" E : 91°48'41"
KAFCO	N : 22°14'58" E : 91°50'47"
Transport Team Express	N : 22°14'54" E : 91°50'48"
Chittagong Boat Club	N : 22°14'55" E : 91°50'49"
Eastern Refinery	N : 22°14'58" E : 91°50'46"
Padma Oil Refinery	N : 22°14'58" E : 91°50'46"
Meghna Oil Refinery	N : 22°14'58" E : 91°50'50"
Jamuna Oil Refinery	N : 22°14'58" E : 91°50'56"
Dry dock	N : 22°14'58" E : 91°50'52"
Standard Asiatic Oil Company	N : 22°16'30" E : 91°48'14"
VOTT Oil refinery LTD	N : 22°16'30" E : 91°48'14"
Elias Group of Industry	N : 22°16'30" E : 91°48'14"
PHP fertilizer Factory	N : 22°16'30" E : 91°48'14"
PRN fashion LTD	N : 22°16'30" E : 91°48'14"
Robi Cement	N : 22°16'30" E : 91°48'14"
Chittagong Fish Centre	N : 22°19'28" E : 91°49'46"
Firinghi Bazar Nala	N : 22°19'33" E : 91°49'54"
Sadarghat Channel or nala	N : 22°19'22" E : 91°49'36"
Banglabazar nala	N : 22°21'22" E : 91°48'16"
Robi cement Factory	N : 22°16'30" E : 91°48'14"
Chaktai Khal (Old)	N : 22°19'50" E : 91°50'51"
Chaktai khal (new)	N : 22°19'52" E : 91°50'53"
Kolpolok Abashik/ kher char/ karnaphuli abashik	N : 22°20'20" E : 91°52'07"
Beilla	N : 22°21'58" E : 91°52'23"
Ikbal Agro farm	N : 22°23'07" E : 91°52'40"
Kalor Ghat	N : 22°22'46" E : 91°52'51"
Taratari Shipyards/ Ship Building site	N : 22°23'36" E : 91°53'23"
Kalor Ghat chor/ Selimoddin Chairman Ghat	N : 22°24'19" E : 91°53'28"
Regent Textile Mills	N : 22°23'30" E : 91°53'21"
Ship building Mills	N : 22°23'30" E : 91°53'21"
TK paper Mills	N : 22°23'30" E : 91°53'21"
MAF Newsprint mills LTD	N : 22°23'30" E : 91°53'21"

Chor Khidir pur	N : 22°23'30" E : 91°53'21"
Hakkani Paper Mills	N : 22°23'30" E : 91°53'21"
FMC Dock Yard	N : 22°23'32" E : 91°53'22"
Soil Factory	N : 22°23'02" E : 91°52'21"
Muskan Salt	N : 22°23'02" E : 91°52'01"
Between Muskan salt and FMC Dock yard	N : 22°21'52" E : 91°52'16"
Chor Bakolia	N : 22°21'53" E : 91°52'16"
PPBL 108MW Power plant	N : 22°20'02" E : 91°52'14"
Zodaic Power Plant	N : 22°20'02" E : 91°52'14"
ANLIMA Group	N : 22°20'10" E : 91°52'14"
Westerm Marine Ship Yard	N : 22°20'01" E : 91°52'12"
Shikol Baha 225MW Power Plant	N : 22°20'12" E : 91°52'12"
Shikol Baha1050MW Power Plant	N : 22°20'11" E : 91°52'13"
Tatia pokor par, Shikol baha	N : 22°19'33" E : 91°51'06"
Seven Ring Cement	N : 22°19'16" E : 91°51'18"
Ship Building site near Seven Ring cement	N : 22°19'03" E : 91°52'05"
Karnaphuli LP Gass	N : 22°18'46" E : 91°52'12"
Pubali Salt	N : 22°18'46" E : 91°52'12"
S. Alam Cold Rolled Mills	N : 22°19'26" E : 91°52'09"
S. Alam Power Plant	N : 22°19'25" E : 91°52'11"
Shutki Polli	N : 22°18'05" E : 91°52'37"
FMC Paint Factory, Shikolbaha	N : 22°17'20" E : 91°52'02"
Shutki polli, Bella para	N : 22°18'08" E : 91°52'35"
Regent Spinning Mills	N : 22°18'08" E : 91°52'35"
4H – Group	N : 22°18'10" E : 91°52'32"
Boal khali Channel	N : 22°20'07" E : 91°52'28"
Mostafa Paper complex	N : 22°20'19" E : 91°55'06"
Hokkani Pulp and Paper Mills	N : 22°20'21" E : 91°55'08"
Ambia Nitting and Dying Mills	N : 22°20'30" E : 91°55'03"
MM Salt Industry	N : 22°20'30" E : 91°55'03"
Karim Salt Factory	N : 22°20'25" E : 91°55'08"
Poultry Farm- 1	N : 22°20'25" E : 91°55'08"
Poultry Farm- 2	N : 22°20'25" E : 91°55'08"
Poultry Farm- 3	N : 22°19'24" E : 91°48'28"
Poultry Farm- 4	N : 22°19'24" E : 91°48'28"
Gorur Khamar	N : 22°19'24" E : 91°48'28"
Noton Bazar, Kaptai	N : 22°30'00" E : 91°12'46"