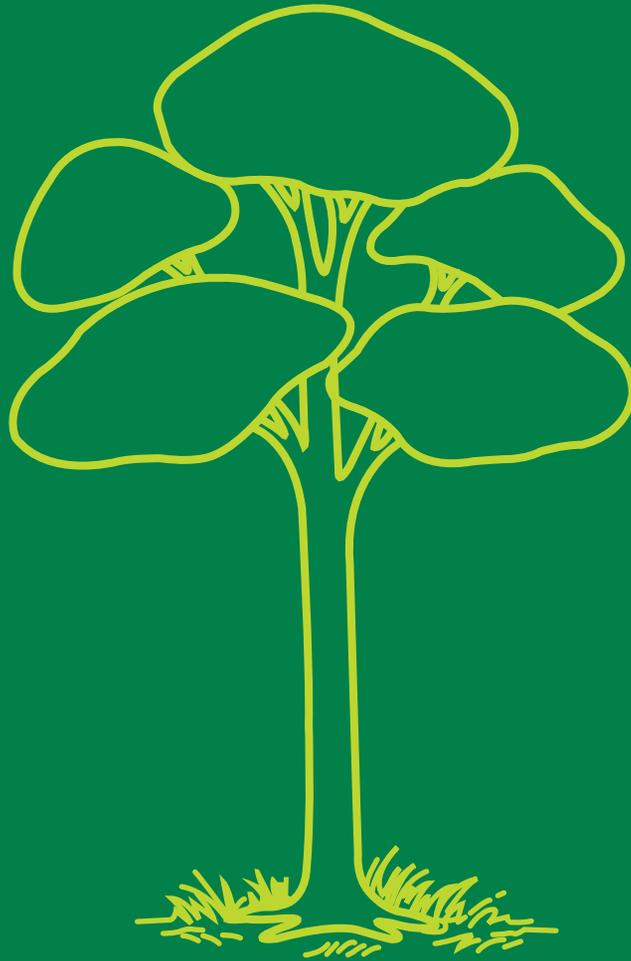


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# Plant Diversity of Village Common Forests Managed by the Murang Community in Bandarban Hill District of Bangladesh

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# Plant Diversity of Village Common Forests Managed by the Murang Community in Bandarban Hill District of Bangladesh

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## Abstract

This paper presents the plant diversity of Ampupara Village Common Forest (VCF), Bandarban Hill District, Bangladesh, which is managed by the Murang Community. A total of 148 plant species belonging to 128 genera under 61 families has been recorded from the VCF of about 20 ha. Habit diversity of plants from this reserve shows that out of 148 species, 82 are trees (55%), 28 shrubs (19%), 24 herbs (16%) and 14 species are climbers (10%). Among the taxa, Euphorbiaceae contains the highest number of species (10) followed by Rubiaceae (9), Verbenaceae (7), Moraceae (6), Anacardiaceae, Asteraceae, Arecaceae (5), Mimosaceae, Acanthaceae, Lamiaceae, Meliaceae and Fabaceae (4). The most common species is Kanok (*Schima wallichii*). Regarding habitat preferences, members of Araceae, Zingiberaceae and Pteridophytes are found to grow along the streams and lower slopes. In the paper, species are enumerated with scientific name(s), Murang names and diversity of habits and habitats. Dominant tree species of the three strata has been described. This VCF is conserved by community effort for conserving the biodiversity. Occurrence of 148 species over about 20 ha areas seems to have a good number of species diversity which is comparable with other government managed forest situations in the country.

## সারসংক্ষেপ

বাংলাদেশের বান্দরবান পার্বত্য জেলার মুরং উপজাতীয় লোকের ব্যবস্থাপনাধীন এম্পুপাড়া রিজার্ভ বনের (VCF) উদ্ভিদ বৈচিত্র্য এই প্রবন্ধে উপস্থাপন করা হয়েছে। প্রায় ২০ হেক্টর আয়তনের রিজার্ভ বন থেকে ৬১টি পরিবার ও ১২৮ গণের অন্তর্গত ১৪৮টি প্রজাতির উদ্ভিদ রেকর্ড করা হয়েছে। উক্ত রিজার্ভ বনের উদ্ভিদের বৈচিত্র্য দেখা যায়, ১৪৮টির মধ্যে ৮২টি বৃক্ষ প্রজাতি (৫৫%), গুল্ম ২৪টি (১৬%), বীর্ষ ২৪টি (১৬%) এবং ১৪টি (১০%) লতা-জাতীয় উদ্ভিদ প্রজাতি। ইউফরবিয়েসি পরিবারে সবচেয়ে বেশি প্রজাতি (১০টি প্রজাতি) রয়েছে। একইভাবে রুবিয়েসি পরিবার (৯টি প্রজাতি), ভারবিনেসি (৭টি), মোরেসি (৬টি), এনাকারডিয়েসি, এস্টেরাসি, এরিকাসি (৫টি করে) এবং মাইমোসাসি, একানথেসি, লেমিয়াসি, মিলিয়েসি ও ফেবাসি পরিবার (৪টি করে প্রজাতি) ধারণ করে। সবচেয়ে বেশি পরিচিত প্রজাতি পাওয়া গেছে যার নাম কনক (*Schima wallichii*)। প্রকৃতিগত সম্পর্কের কারণে এরেসি, জিনকিব্বারেসি ও টেরিডোফাইট পরিবারের সদস্যরা পাহাড়ের নিচের দিকের ঢালুতে ও ঝিরির কাছে অধিক সংখ্যক জন্মাতে পছন্দ করে। এই প্রবন্ধে উদ্ভিদ প্রজাতিসমূহের স্বাভাবিক বাসস্থান, প্রকৃতি ও স্বভাবসহ বৈজ্ঞানিক নাম, মুরং নাম ইত্যাদি উপস্থাপন করা হয়েছে। তিন স্তরের প্রধান বৃক্ষ প্রজাতির তালিকাও দেয়া হয়েছে। এই রিজার্ভ বনের সংরক্ষণ পদ্ধতি জীববৈচিত্র্য সংরক্ষণের একটি গুরুত্বপূর্ণ স্থানীয় উজ্জ্বল দৃষ্টান্ত। প্রায় ২০ হেক্টর আয়তনের জায়গাতে ১৪৮টি প্রজাতির সমাহারকে খুব ভাল সংখ্যক প্রজাতির বৈচিত্র্যপূর্ণ বলে মনে হয় যা সরকারী ব্যবস্থাপনায় বনের বর্তমান অবস্থানের সাথে তুলনীয়।

**Keywords:** Ampupara; Angiosperms; Habit diversity; Natural resources; Plant diversity

## Introduction

Bandarban hill district is the second largest district of Chittagong Hill Tracts (CHTs) with an area of 4,502 sq. km. The landform of Bandarban

is mainly composed of high hills (20%), medium hills (22%), low hills (31%) and the rest is valley land. Among the land areas, 42% remains as fallow land, 38% forest land and the rest 20% is used as ,

agricultural land (Khan *et al.*, 2007). Thirteen ethnic tribal communities are living in Chittagong Hill Tracts for long (BBS, 2001; Khan *et al.*, 2007). Lives of communities living in the hills are centered on forests. The tribal communities of Bandarban hill district are used to manage community forests in the vicinity of their villages for environmental protection, supply of water and different commodities of daily lives including many food and medicinal plants. This community managed village common forests are termed as Village Common Forest (VCF), Community Reserve, Kuo Bam, Para Reserve or Mouza Reserve. This is a traditional community-based forest management prevailing in the tribal communities of the CHTs. Traditionally, the local community institutions manage these common forests and the local community leaders (Headmen or Karbaris) take care of the commons on behalf of the communities (Khisa, 2006). Bangladesh Government had plans to maintain 40 hectares of Reserve in the CHTs to meet up people's requirement other than timbers (Anonymous, 1965). Mouza is the traditional administrative unit which comprises a number of villages. This type of habitat conservation exists in different parts of the world for conserving different species (Horwich and Lyon, 1998) and are maintained under collective ownership by indigenous people group (Cox and Elmqvist, 1991; Cox 1997). Mohiuddin *et al.*, (2006) described Ampupara in brief the traditional management of community forests by the tribe of Ampupara, Bandarban hill district. In Ampupara, there is a natural primary forest patch of about 20 ha on both sides of a stream, which is the only source of water for the villagers.

This community forest is maintained for watershed and it protects the village from fire during burning Jhum (shifting cultivation). Conservation and management of natural resources as a common resource, is a tradition of many tribal communities in the CHTs. Population increase, land-use change and indiscriminate forest harvest

are causing depletion and shrinkage of these forests. In some areas, local tribal communities are still maintaining some community-managed reserve forests as their tradition. These reserves are still conserving some biodiversity through managing some natural habitats. The objective of the present study is to document diversities of plant and their habitat of the Murang community managed forest at Ampupara in Bandarban Hill District.

### Materials and Methods

Ampupara, a Murang village was settled in 1890 in Bandarban district, by migration of people from Ruma. Flat hilltop with perennial water source, availability of community lands might be the major factors of settlement. The village is situated on the side of Chimbuk-Thanchi-road, 37 kilometers away from Bandarban district town. It is situated in the flat hilltop at about 650 m above the MSL and at 22° 58' North latitude and 92° 18' East longitude. The mean annual rainfall varies from 2400-3800 mm and 70-80% of the annual total rainfall occurs in the wet season and 18-24% in dry season. The mean annual temperature varies from 10° to 35°C. A mean minimum temperature of 26°C occurs in December to January and a maximum temperature of 34°C in March to May. The mean humidity is approximately 78% in Bandarban. The maximum humidity was found during July to August and the minimum in January to February (Khan *et al.*, 2007). The topography of the village common forest is mostly hilly terrain with very steep to steep-slopes at high elevation of Chimbuk hill range. However, size and shape of slopes, continuity on same slopes are variable. Gross physical features of soil vary from abundant to few shale fragments, dark greyish brown in colour and clayey in texture, and soil pH varies from 5.5 – 6.5.

We conducted a reconnaissance survey followed by field trips during July 2006 to December

2007 at Ampupara. During the trips, we collected botanical samples and recorded their habit, habitat, and local names. Botanical samples were preserved by following standard herbarium technique. Authors also documented indigenous management practices for conservation of these forests by Participatory Rural Appraisal (PRA) and focus group discussions following several authors (Gurung, 1994; Martin, 1995; Horowitz, 2000). Both male and female of the village were involved in the PRA exercises.

The botanical samples were identified consulting the pertinent literatures. All the collected specimens have been preserved in Bangladesh Forest Research Institute herbarium. In this paper, the plant families, genera and species under each family have been arranged alphabetically. Each species entry provides the scientific name(s), the Murang name(s), and diversity of habit and habitat.

## Results and Discussion

### Species diversity

During the survey, naturally-growing 148 angiospermic species were collected from the Ampupara VCF (Table 1). These species are classified under 128 genera and 61 families. The maximum number of species were found in Euphorbiaceae representing 10 species followed by Rubiaceae (9 species), Verbenaceae (7), Moraceae (6), Anacardiaceae, Arecaceae, Asteraceae, (5 each), Acanthaceae, Fabaceae, Lamiaceae, Meliaceae and Mimosaceae (4 each). All species in Araceae, Asteraceae and Zingiberaceae family are herbaceous in nature. On the other hand, most of the species of Anacardiaceae, Bignoniaceae, Burseraceae, Clusiaceae, Dipterocarpaceae, Sapindaceae, Meliaceae, Mimosaceae and Moraceae are trees. Most of the species of Convolvulaceae are climbers. Diversity of species from an area of about 20 ha VCFs at Ampupara seems to be rich in comparison to other natural

forests from the region. Comparison of the species diversity with the other findings has been shown in Table 2.

### Habit diversity

The Floristic compositions of the Ampupara VCFs are classified as tree, shrub, herb and climber on the basis of habit. According to the habit diversity, trees occupy the highest position, comprising 82 species which constitutes 55% of taxa, followed by shrubs comprising 28 species (19%), herb comprises 24 species (16%) and 14 (10%) are climbers.

### Occurrence of the species according to stratum

The present study revealed that three strata of the vegetation occur in the community reserve. The top canopy is dominated by trees. Shrubs grow mostly in the second stratum of this community forest. The species comprising of third stratum plants are mostly herbs and under-shrubs. These are moist-loving and specific to habitat. These species occurring along steep stream banks play an important role in perennial water supply in the stream. Conservation of these species is important as niche species. Dominant species occurring in different strata are shown in Table 3.

*Schima wallichii*, *Gmelina arborea*, *Vitex peduncularis*, *Sterospermum colais*, *Ficus semicordata*, *Syzygium* sp. and *Albizia procera* are tree species occurring in the comparatively drier areas and in denuded hills as secondary vegetation. Climbers, like *Cissus repens* members of Vitaceae occur in dry areas along the fringe of the primary forest. Some hill slopes are also covered with *Melocanna baccifera* as secondary vegetation. Some denuded and abandoned areas are covered with *Globba marantina*, *Staurogyne angustifolia*, *Ixora cuneifolia*, *Clerodendrum viscosum* and other unidentified species.

**Table 1.** List of the naturally grown plant species in the Ampupara Community Reserve.

Family	Scientific name	Murong name	Habit	Habitat
Acanthaceae	<i>Eranthemum strictum</i> Coleb. ex Roxb.	<i>Madu shak</i>	Shrub	US
	<i>Lepidagathis incurva</i> Buch-Ham. ex D. Don	<i>Kon-tooa</i>	Shrub	LS
	<i>Nelsonia canescens</i> (Lamk.) Spreng	<i>Kitro lat</i>	Herb	US
	<i>Staurogyne angustifolia</i> T. Anders.	<i>Sutho cha</i>	Herb	US
Amaranthaceae	<i>Achyranthes aspera</i> L.	<i>Apang</i>	Herb	MS
Anacardiaceae	<i>Bouea oppositifolia</i> (Roxb.) Meissner	<i>Wenow</i>	Tree	AS
	<i>Holigarna longifolia</i> Roxb.	<i>Preng</i>	Tree	MS
	<i>Lannea coromandelica</i> (Houtt.) Merr.	<i>Mam</i>	Tree	MS
	<i>Mangifera indica</i> L.	<i>Weprom</i>	Tree	MS
	<i>Mangifera sylvatica</i> Roxb.	<i>Wenow</i>	Tree	MS
Annonaceae	<i>Desmos chinensis</i> Lour.	<i>Kitro lat</i>	Climber	LS
	<i>Sageraea listeri</i> King		Tree	MS
Apiaceae	<i>Oenanthe javanica</i> (Blume) DC.	<i>Jhum dainna</i>	Herb	US
Apocynaceae	<i>Alstonia scholaris</i> (L.) R. Br. ex.	<i>Clet sing</i>	Tree	AS
	<i>Tabernaemontana divaricata</i> (L.) R. Br. ex Roem. & Schult.	<i>Thong</i>	Shrub	US
Araceae	<i>Aglaonema hookerianum</i> Schoot	<i>Lee-iya</i>	Herb	LS
	<i>Colocasia oesbia</i> A. Hay	<i>Ro-ram pata</i>	Herb	LS
Araliaceae	<i>Trevesia palmata</i> (Roxb.) Vis.	<i>Fao-sing</i>	Tree	MS
Arecaceae	<i>Calamus gracilis</i> Roxb.	<i>Shong</i>	Climber	MS
	<i>Calamus latifolius</i> Roxb.	<i>Shong</i>	Shrub	LS
	<i>Caryota urens</i> L.	<i>Lay-ing</i>	Tree	MS
	<i>Daemonorops jenkinsiana</i> (Griff.) Martius	<i>Shong</i>	Shrub	AS
	<i>Wallichia caryotoides</i> Roxb.	<i>Lay-ing</i>	Tree	AS
Asteraceae	<i>Ageratum conyzoides</i> L.	<i>Polai</i>	Herb	US
	<i>Chromolaena odorata</i> (L.) King & Robinson	<i>Oliya</i>	Herb	MS
	<i>Mikania cordata</i> (Burm. f.) Robinson	<i>Ka-tha lat</i>	Climber	MS
	<i>Spilanthes calva</i> DC.	<i>Ketua</i>	Herb	LS
	<i>Vernonia cinerea</i> (L.) Less.	<i>Chan kui</i>	Herb	LS
Bignoniaceae	<i>Pajanelia longifolia</i> (Willd.) K. Schum.	<i>Kling-mong</i>	Tree	US
	<i>Stereospermum colais</i> (Buch.-Ham. ex Dillw.) Mabblerley	<i>Ronka-sing</i>	Tree	MS
Bixaceae	<i>Bixa orellana</i> L.	<i>Prim so</i>	Tree	MS
Bombacaceae	<i>Bombax insigne</i> Wall.	<i>Pang-sing</i>	Tree	MS
Burseraceae	<i>Garuga pinnata</i> Roxb.	<i>Clau-o</i>	Tree	AS

Table 1 Continued

Burse raceae	<i>Garuga pinnata</i> Roxb.	<i>Clau -o</i>	Tree	AS
	<i>Protium serratum</i> (Wall. ex Coelbr.) Engl.	<i>Katur sing</i>	Tree	US
Caesalpiaceae	<i>Bauhinia purpurea</i> L.	<i>O-kao</i>	Tree	US
	<i>Cassia nodosa</i> Buch. -Ham. ex Roxb.	<i>Sing -clang</i>	Tree	US
Clusiaceae	<i>Garcinia xanthochymus</i> Hook.f. ex T. Anders.	<i>Tutj ja</i>	Tree	MS
	<i>Mesua ferrea</i> L.	<i>Noksa phul</i>	Tree	MS
Combretaceae	<i>Anogeissus acuminata</i> (Roxb. ex DC.) Guill. & Perr.	<i>Tarum</i>	Tree	US
	<i>Calycopteris floribunda</i> (Roxb.) Lamk.	<i>Chreng ta</i>	Climber	US
	<i>Terminalia bellirica</i> (Gaertn.) Roxb.	<i>Ma sing</i>	Tree	MS
Convolvulaceae	<i>Ipomoea hederifolia</i> L.	<i>Ranai lat</i>	Climber	MS
	<i>Ipomoea pes -tigridis</i> L.	<i>Languilat</i>	Climber	LS
	<i>Merremia umbellata</i> (L.) Hallier f.	<i>Hoop lat</i>	Climber	MS
Cucurbitaceae	<i>Hodgsonia macrocarpa</i> (Blume) Cogn.		Woody climber	US
Dilleniaceae	<i>Dillenia pentagyna</i> Roxb.	<i>Khoi -sing</i>	Tree	AS
Dioscoreaceae	<i>Dioscorea bulbifera</i> L. var. <i>bulbifera</i>	<i>Moding</i>	Climber	US
Dipterocarpaceae	<i>Anisoptera scaphula</i> (Roxb.) Pierre	<i>Karcar sing</i>	Tree	MS
	<i>Dipterocarpus turbinatus</i> Gaertn.	<i>Rai -ma</i>	Tree	MS
Ebenaceae	<i>Diospyros montana</i> Roxb.	<i>Carpang</i>	Tree	AS
Elaeocarpaceae	<i>Elaeocarpus floribundus</i> Blume	<i>Kan -ron</i>	Tree	MS
Euphorbiaceae	<i>Antidesma bunius</i> (L.) Spreng.	<i>Ki-tang</i>	Tree	AS
	<i>Antidesma roxburghii</i> Wall. ex Tulasne	<i>Sukma</i>	Tree	LS
	<i>Aporosa dioica</i> (Roxb.) Muell. -Arg.	<i>Ba ta sing</i>	Shrub	MS
	<i>Bischofia javanica</i> Blume	<i>Jug -ma sing</i>	Tree	AS
	<i>Bridelia retusa</i> (L.) A. Juss.	<i>Kakmai</i>	Tree	LS
	<i>Mallotus philippensis</i> (Lamk.) Muell. -Arg.	<i>Hap -lou</i>	Tree	US
	<i>Mallotus tetracoccus</i> (Roxb.) Kurz	<i>Hap -lou</i>	Tree	US
	<i>Phyllanthus niruri</i> L.	<i>Kuddi</i>	Herb	LS

Table 1 Continued

	<i>Phyllanthus reticulatus</i> Poier.	<i>Nakangwi</i>	Shrub	US
	<i>Sapium baccatum</i> Roxb.	<i>Room thar</i>	Tree	US
Fabaceae	<i>Crotalaria pallida</i> Ait.	<i>Thrung cha</i>	Shrub	MS
	<i>Desmodium triflorum</i> (L.) DC.	<i>One dung sing</i>	Shrub	LS
	<i>Erythrina fusca</i> Lour.	<i>Craw-da</i>	Tree	AS
	<i>Vigna adenantha</i> (Meyer) Marechal	<i>Bon borbati</i>	Climber	LS
Fagaceae	<i>Castanopsis tribuloides</i> (Smith) A. DC.	<i>Kan klae-sing</i>	Tree	MS
	<i>Lithocarpus elegans</i> (Blume) Hatus. ex Soepad .	<i>Kan klae-sing</i>	Tree	MS
Haemodoraceae	<i>Peliosanthes teta</i> Andr.	<i>Tham habcha</i>	Herb	AS
Lamiaceae	<i>Anisomeles indica</i> (L.) O. Kuntze	<i>Ranlomia</i>	Herb	US
	<i>Ocimum americanum</i> L.	<i>Chonghir</i>	Shrub	MS
	<i>Ocimum basilicum</i> L.	<i>Chonghir</i>	Shrub	MS
Lauraceae	<i>Cinnamomum glaucescens</i> (Nees) Meiss.	<i>Tonma-nisa</i>	Tree	MS
	<i>Cryptocarya amygdalina</i> Nees		Tree	MS
	<i>Litsea monopetala</i> (Roxb.) Pers.	<i>Klang-nap</i>	Tree	MS
	<i>Phoebe lanceolata</i> (Nees) Nees	<i>Nake-now ruk</i>	Tree	MS
Leeaceae	<i>Leea acuminata</i> Wall.	<i>Tahe</i>	Tree	MS
	<i>Leea aequata</i> L.	<i>Ta he-red</i>	Shrub	US
Liliaceae	<i>Molineria recurvata</i> (Dryand.) Herbert	<i>Than hab</i>	Herb	MS
Magnoliaceae	<i>Michelia champaca</i> L.	<i>Cham-sing</i>	Tree	MS
Malvaceae	<i>Gossypium barbadense</i> L.	<i>Cleo-ma sing</i>	Tree	LS
	<i>Hibiscus surattensis</i> L.	<i>Kong chur</i>	Shrub	MS
	<i>Urena lobata</i> L.	<i>Nepma</i>	Shrub	US
Melastomataceae	<i>Melastoma malabathricum</i> L.	<i>Kanlen Ram</i>	Shrub	MS
Meliaceae	<i>Aglaia spectabilis</i> (Miq.) Jain & Bennet ( <i>Amoora wallichii</i> King)	<i>Ong sing</i>	Tree	MS
	<i>Aphanamixis polystachya</i> (Wall.) R.N. Parker	<i>Ong sing</i>	Tree	MS
	<i>Azadirachta indica</i> A.Juss.	<i>Clao-prong sing</i>	Tree	US
	<i>Toona ciliata</i> M. Roem.	<i>Shikro-du</i>	Tree	MS

Table 1 Continued

Menispermaceae	<i>Stephania japonica</i> (Thunb.) Miers	<i>Muichanlat</i>	Climber	Ms
Mimosaceae	<i>Albizia chinensis</i> (Osb.) Merr.	<i>Kang shok-sing</i>	Tree	MS
	<i>Albizia lebbeck</i> (L.) Benth. & Hook.	<i>Sing sua</i>	Tree	MS
	<i>Albizia procera</i> (Roxb.) Benth.	<i>Sing sua</i>	Tree	MS
	<i>Samanea saman</i> (Jacq.) Merr.	<i>Khani shok</i>	Tree	US
Moraceae	<i>Artocarpus chama</i> Buch. -Ham. ex Wall.	<i>Wi kog</i>	Tree	LS
	<i>Ficus benghalensis</i> L.	<i>Pong-sing</i>	Tree	US
	<i>Ficus benjamina</i> L.	<i>Pong-sing</i>	Tree	MS
	<i>Ficus racemosa</i> L.	<i>Ganua sing</i>	Tree	AS
	<i>Ficus semicordata</i> Buch. -Ham. ex Smith	<i>Widuth</i>	Tree	AS
	<i>Ficus tinctoria</i> G. Forst.	<i>Widuth</i>	Tree	AS
Myristicaceae	<i>Myristica linifolia</i> Roxb.	<i>Lao berella</i>	Tree	MS
Myrsinaceae	<i>Maesa indica</i> (Roxb.) A. DC.	<i>Jugran plang</i>	Tree	MS
	<i>Maesa ramentacea</i> (Roxb.) A. DC.	<i>Jugran plang</i>	Tree	LS
Myrtaceae	<i>Syzygium cumini</i> (L.) Skeels	<i>Klang ui</i>	Tree	LS
	<i>Syzygium fruticosum</i> DC.	<i>Klang ui</i>	Tree	US
Oleaceae	<i>Jasminum scandens</i> Vahl	<i>Sugandi phul</i>	Climber	MS
Piperaceae	<i>Piper attenuatum</i> Buch. - Ham. ex Wall.	<i>Ram-jarong</i>	Herb	LS
Poaceae	<i>Bambusa vulgaris</i> Schrad. ex Wendl.	<i>Kho ma</i>	Tree	AS
	<i>Cymbopogon citratus</i> (DC.) Stapf	<i>Cle song</i>	Herb	US
	<i>Melocanna baccifera</i> (Roxb.) Kurz	<i>Kho ma</i>	Tree	MS
	<i>Setaria palmifolia</i> (Koen.) Stapf	<i>Jhum corng</i>	Herb	US
Polygonaceae	<i>Ampelgynum chinense</i> (L.) Lindley	<i>Young-frong</i>	Herb	AS
	<i>Persicaria dichotoma</i> (Blume) Masamune	<i>Jong crome</i>	Herb	AS
Ranunculaceae	<i>Delphinium ajacis</i> L.	<i>Nockh-palinka</i>	Herb	MS
Rhamnaceae	<i>Ziziphus oenoplia</i> (L.) Mill.	<i>Sit-cha ui</i>	Shrub	MS
Rubiaceae	<i>Gardenia coronaria</i> Buch. - Ham.	<i>Purchan sing</i>	Tree	US
	<i>Ixora cuneifolia</i> Roxb.	<i>Canke rang</i>	Shrub	MS
	<i>Metadina trichotoma</i> (Zoll. & Mor.) Bakh. f.	<i>My peow</i>	Shrub	LS
	<i>Mitragyna rotundifolia</i> (Roxb.) O. Kuntze	<i>Dakkum ui</i>	Tree	MS

Table 1 Continued

Rubiaceae	<i>Morinda citrifolia</i> L.	<i>Ban rech</i>	Shrub	MS
	<i>Mussaenda roxburghii</i> Hook.f.	<i>Mi pew</i>	Shrub	MS
	<i>Mycetia longifolia</i> (Wall.) O. Kuntze	<i>Threng sa</i>	Shrub	LS
	<i>Pavetta indica</i> L.	<i>Kan - a - sing</i>	Shrub	MS
	<i>Spermacoce articularis</i> L.f. [ <i>Borreria hispida</i> (L.) Schum.]	<i>Daru kray</i>	Herb	US
Rutaceae	<i>Clausena suffruticosa</i> (Roxb.) Wight & Arn	<i>Wama-kure</i>	Shrub	US
Sapindaceae	<i>Allophylus cobbe</i> (L.) Roxb.	<i>Tum paosing</i>	Tree	LS
	<i>Lepisanthes rubiginosa</i> (Roxb.) Leenh.	<i>Like a sing</i>	Tree	US
	<i>Lepisanthes senegalensis</i> (Poir.) Leenh. <i>Aphania danura</i> (Roxb.) Radlk.	<i>You kak-sing</i>	Tree	AS
Solanaceae	<i>Solanum torvum</i> Swartz	<i>Kumplu-ui</i>	Shrub	MS
	<i>Solanum violaceum</i> Ortega	<i>Kumplu</i>	Shrub	US
Sonneratiaceae	<i>Duabanga grandiflora</i> (Roxb. ex DC.) Walp.	<i>Ruiong-sing</i>	Tree	AS
Sterculiaceae	<i>Byttneria pilosa</i> Roxb.	<i>King kay</i>	Climber	LS
	<i>Pterospermum acerifolium</i> (L.) Willd.	<i>Hab ka</i>	Tree	MS
	<i>Pterospermum semisagittatum</i> Buch.-Ham. ex Roxb.	<i>Hab ka</i>	Tree	US
	<i>Sterculia foetida</i> L.	<i>Janglibadam</i>	Tree	MS
Theaceae	<i>Schima wallichii</i> (DC.) Korth.	<i>Purchan-sing</i>	Tree	MS
Tiliaceae	<i>Grewia nervosa</i> (Lour.) Panigr.	<i>Urea shok</i>	Tree	MS
Ulmaceae	<i>Trema orientalis</i> (L.) Blume	<i>Simutta sing</i>	Tree	US
Urticaceae	<i>Boehmeria glomerulifera</i> Miq.	<i>Kan lang</i>	Shrub	MS
Verbenaceae	<i>Callicarpa arborea</i> Roxb.	<i>Ram nang</i>	Tree	LS
	<i>Clerodendrum viscosum</i> Vent.	<i>Tera-pa</i>	Shrub	US
	<i>Gmelina arborea</i> Roxb.	<i>Kam-sing</i>	Tree	US
	<i>Premna esculenta</i> Roxb.	<i>Daru sing</i>	Shrub	LS
	<i>Tectona grandis</i> L.f.	<i>Palm kreng sing</i>	Tree	US
	<i>Vitex peduncularis</i> Wall. ex Schauer	<i>Wama kear</i>	Tree	MS
	<i>Vitex pinnata</i> L.	<i>Wama kear</i>	Tree	MS
Vitaceae	<i>Cissus repens</i> Lamk.	<i>Preyo ma</i>	Climber	MS
Zingiberaceae	<i>Alpinia nigra</i> (Gaertn.) Burt.	<i>Kapu tuja</i>	Herb	LS
	<i>Globba marantina</i> L.	<i>Kapu tuja</i>	Herb	LS
	<i>Globba multiflora</i> Wall. ex Baker	<i>Kapu tuja</i>	Herb	LS

LS= Lower slope, MS= Middle slope, US= Upper slope and AS= Along the streams

**Table 2.** Comparison of species diversity among different reserve areas

VCF Name	Area (ha.)	Species Number	References
Ampupara VCF, Bandarban	20	148 species under 128 genera and 61 families	Present study
Dud-Pukuria -Dopachari Wildlife Sanctuary, Chittagong (South) Forest Division	831.4	77 species under 57 genera and 32 families	Delwar <i>et al.</i> 2012
Bamu Reserve Forest, Cox's Bazar Forest Division	603	85 tree species	Hossain <i>et al.</i> 1997
Sitapahar Reserve Forest, Kaptai, Rangamati	316	85 tree species	Nath <i>et al.</i> 1998
Baraitali Forest, Chittagong Forest Division (South)	1000	77 tree species	Rahman, 2002
Fulchari Reserve Forest, Cox's Bazar	2200	73 tree species	Arif, 2 003
Satchari Reserve Forest, Hobigonj, Sylhet	242.91	102 species	Chowdhury <i>et al.</i> 2004
Satchari Reserve Forest, Hobigonj, Sylhet	242.91	73 tree species	Arefin <i>et al.</i> 2011
Village Common Forest, Chittagong Hill Tract	57	163 plant species	Jashimuddin and Inoue, 2012

**Table 3.** Dominant plant species at different strata of Ampupara VCF

Top canopy: First stratum (Dominant tree)	<i>Albizia lebbbeck</i> , <i>Anisoptera scaphula</i> , <i>Anogeissus acuminata</i> , <i>Aphanamixis polystachya</i> , <i>Bombax insigne</i> , <i>Castanopsis tribuloides</i> , <i>Dillenia pentagyna</i> , <i>Garuga pinnata</i> , <i>Holigarna longifolia</i> , <i>Mangifera sylvatica</i> , <i>Pajanelia longifolia</i> , <i>Pterospermum acerifolium</i> , <i>Schima wallichii</i> , <i>Stereospermum colais</i> , <i>Terminalia bellirica</i> and <i>Vitex peduncularis</i> .
Second stratum	<i>Bischofia javanica</i> , <i>Cinnamomum cecicodaphne</i> , <i>Clausena suffruticosa</i> , <i>Ficus semicordata</i> , <i>Grewia nervosa</i> , <i>Leea aequata</i> , <i>Lithocarpus elegans</i> , <i>Litsea monopetala</i> , <i>Mallotus philippensis</i> , <i>Phobe lanceolata</i> , and <i>Sapium baccatum</i> .

## Conclusion

The community reserves or VCFs where exist are still some remnants of natural primary forests of the Chittagong Hill Tracts. A good number of native trees are naturally growing in this community-managed forests and local people are conserving this species for their interest. This

type of community reserve is now in tremendous pressure of extinction due to road development, population pressure, and loss of social norms. So, more efforts from both the government and community are needed to conserve such VCFs and that will help to conserve biodiversity at local level.

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