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Mobilizing Education for Sustainable Development Program in the Regional Centre of Expertise Greater Dhaka:

IUBAT Whole-Institution approach of Global Action Program

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ABSTRACT: *This paper describes the holistic approach of an academic institution in pursuing the environmental dimension of the Sustainable Development Goals (SDGs). International University of Business Agriculture and Technology (IUBAT) is host of the Regional Centre of Expertise (RCE) Greater Dhaka. It has been taking various steps, based on the Global Actions Program (GAP), to support sustainable education. The sustainability practices include energy saving, waste water reuse, waste management, tree plantation, reduction of carbon footprint, greening the campus, etc. IUBAT, as the RCE Greater Dhaka, is a pioneer institution playing a crucial role in disseminating sustainable education to students, youth and the wider community. This requires a combined effort of the IUBAT faculty, students, administration and operations staff. The RCE Greater Dhaka has a nationwide impact because first, it is providing a model educational institution for sustainable activities in Bangladesh and second, it is training resource persons (such as students trained in sustainable knowledge) who will take a leading role in Bangladesh's future. This study discusses some positive achievements.*

KEYWORDS: *GAP-Global Action Programme, ESD-Education for Sustainable Development, Whole Institution Approach, RCE-Regional Centre of Expertise*

Introduction

Education for Sustainable Development (ESD) was a United Nations (UN) decade-long program (2005-2015). It played a crucial role in formal and non-formal education by up-scaling sustainable development around the world. Its role has been to educate students, teachers, the broader community and government about sustainability.

In 2003, the United Nations University Institute for the Advanced Study of Sustainability (UNU-IAS) launched the ESD project, with funding support from the Ministry of the Environment, Japan. The ESD project designs and implements research and development activities through two flagship initiatives: a global multi-stakeholder global network of Regional Centres of Expertise on ESD (RCEs), and a network of higher education institutions called the Promotion of Sustainability in Postgraduate Education and Research Network [Global RCE Network].

Moving forward, UNESCO has now presented the Roadmap for Implementing the Global Action Program (GAP) on ESD with five priorities: (i) advancing policy by mainstreaming ESD, (ii) transforming learning and training environments using the whole-institution approach, (iii) building capacities of educators and trainers, (iv) empowering and mobilizing youth, and (v) finally, accelerating sustainable solutions at the local level. At all levels of society, RCEs play a crucial role in implementing these goals using their local knowledge and global network [Proposal for GAP, 2014].

Any academic institution could be a front runner for sustainability. This article is a case study of the IUBAT whole institution approach

of RCE Greater Dhaka in the area of biodiversity conservation, youth mobilization, and water reuse.

Mission and Vision of RCE Greater Dhaka

RCE Greater Dhaka's goal is to make individuals and communities aware of environmental facts, moral development, and practices that can be implemented by individuals, groups of friends and family and more widely.

The specific objectives of the RCE are:

- To apply knowledge management science for effective management of the environment.
- To develop and integrate indigenous knowledge on environmental management and sustainability through research and consultation.
- To conduct training and workshops for executives and policy makers to develop skills in environmental management.
- To develop academic specialization on environmental studies.
- To disseminate information on environmental issues through information sharing and publication.
- To develop appropriate linkages with national, regional and international environmental organizations.
- To study ethnic and traditional wisdom and cultural practices to advance sustainability.

“Whole Institution” Approach

The IUBAT whole institution approach refers to the second priority area of the Global Action Program (GAP) in transforming learning and training environments. The university has a “green” campus with plenty of biodiversity; university programs encourage resource-saving

and mobilize youth in various schools surrounding IUBAT to pursue sustainable entrepreneurship and skill development. IUBAT is green not only due to its vegetative cover but also to energy-saving activities, waste-water reuse, waste management, tree plantation, and reduction of campus carbon footprint. (See Figures 1 and 2).

Figure I: IUBAT Whole Institution Approach and its four components

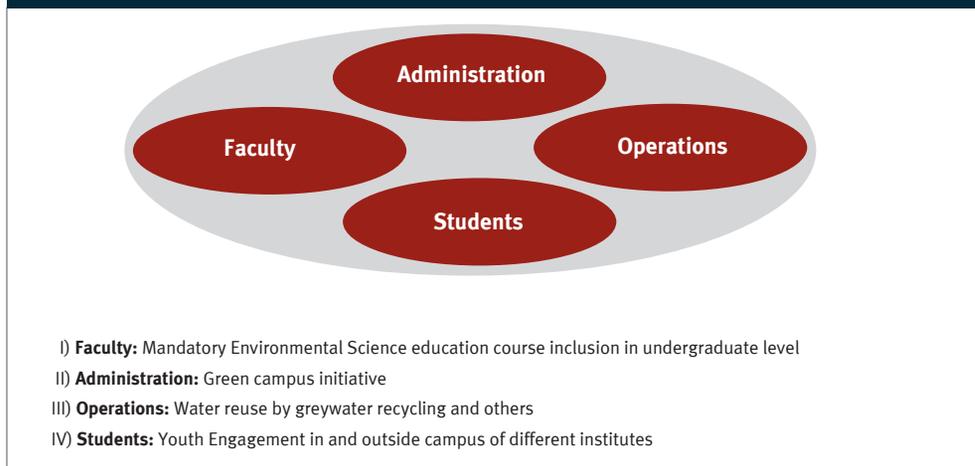
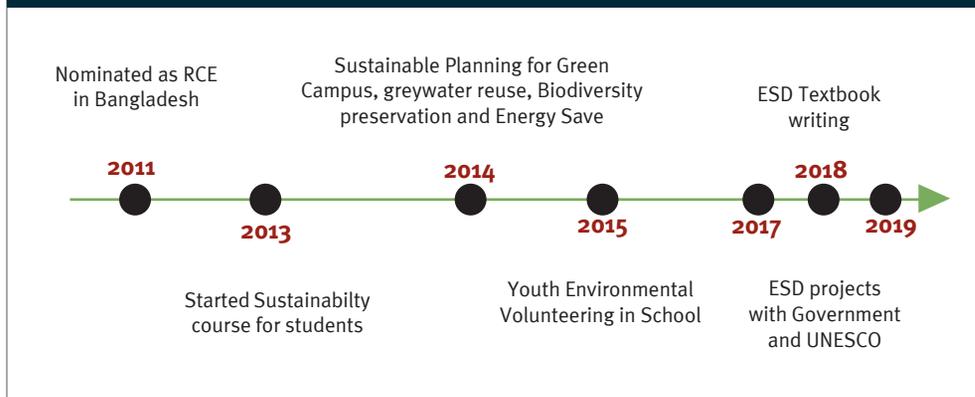


Figure II: Timeline for the sustainability initiatives in the campus



Faculty for Institution: Sustainability in Course Curricula

IUBAT has approximately 8000 full time students. A sustainability course was first proposed for all students in 2013. The course curriculum and sustainability practices are intended to change student behavior. This is a pioneer ESD practice tools in Bangladesh. Every semester 500 students are trained on sustainability practices. To date we have trained 7000 students.

The Course Design

The field of sustainability aims to integrate environmental, social, and economic dimensions [Komiya and Takeuchi, 2006]. To do so, the field draws heavily from a wide variety of foundational disciplines (e.g., geography, environmental science, ecology, economics, political science, and sociology). The field is defined more by the problems it addresses than the disciplines it employs [Clark, 2007]. While the approach to organizational design may vary, there appears to be some consensus on the core concepts that a sustainability program should address: bridging social and natural sciences [Kates and Clark 2001, Andersson et al, 2008] and understanding the interconnectedness of social, environmental, and economic systems [Tilbury, 1995]. The sustainability course has been designed to create awareness among undergraduate students of local and international environmental issues and of changes in students' lifestyles to enhance sustainability.

In designing the course, we tried to achieve the following learning outcomes:

- Sustainable resource utilization
Learning Outcome, student understanding of ...:
 - Human overexploitation of the world's natural resources;
 - Limitation of natural resources on planet earth;
 - Renewable Energy Resources for future;
 - Industrialization history and global catastrophe;
 - Carbon footprint and ways to minimizing it;
- Population and human resource and its sustainable management
 - Learning Outcome, students will learn about ...
 - Population growth on planet earth;
 - Hidden danger of exponential population growth;
 - Negative population growth in developed world;
 - Managing population for future economic growth;
- Climatic zones and Biodiversity
Learning outcome, students will learn about ...
 - Concepts of biodiversity and its importance;
 - Various endangered and extinct species;
 - Various climatic zones and their biodiversity in the world;
 - Conservation of biodiversity;

- **Traditional wisdom**
Learning outcome, students will learn about ...

- traditional methods of sustainable adaptation practices in Bangladesh such as rainwater harvesting, pond solution for water, local varieties of agricultural crops, organic farming, tree species as wind break in natural disasters;

- **Sustainability in school campus as a learning laboratory**
Learning outcome, students will learn about ...

- energy saving, waste water reuse, waste management, tree plantation, reduction of carbon footprint, greening campus;

- **Soil, air and water pollution and food chain degradation and diseases**
Learning outcome, students will learn about ...

- Reasons of air, water and soil pollution;
 - Effluent Treatment Plant (ETP) for industrial wastewater management;
 - Health hazards of toxic compounds in food chains;

- **Environmental Health and Safety measures for the workers**
Learning outcome, students will learn about ...

- safety in working environment and in natural disasters such as earthquakes;

- **Social Equity for Sustainable Development**
Learning outcome:

- a) Students will learn about avoiding gender discrimination;

- b) They will learn about poverty reduction for sustainable development;

- **Environmental Ethics**
Learning outcome, students will learn about ...

- ethical values and morals for giving priority to environmental laws over economic value nationally, globally and personally;

Through sustainability teaching we are changing attitudes towards nature and ecosystems. Students learn to optimize resource utilization in their daily lives. They learn to analyze environmental problems – including local problems. Traditional aspects of sustainability are introduced and students learn about the best indigenous solutions of local environmental problems.

Administrative effort for Green Campus

Dhaka ranks 11th among the world cities in terms of population. Due to unplanned urbanization and industrialization, its environmental condition has deteriorated severely and now Dhaka is ranked as one of the most “unlivable” cities in the world. The city lacks urban green spaces to breathe fresh air and achieve mental peace. IUBAT is situated in Uttara Model Town in the Dhaka metropolitan area. The campus was established in 2005 on open land. The university started an initiative to make the campus into the greenest in Bangladesh. It introduced indigenous and exotic species in the campus. For example, IUBAT campus has 86 tree species and a total of 777 trees, in an area of 2.6 hectares [Dastagir, 2015]. Moreover,

the campus is a laboratory for students to learn about various herbs, under-utilized crops and ornamental plants, and it has become a habitat for thousands of birds. The perennial plants include local and exotic species. They also serve

as a laboratory for identification of plants for students who have very little knowledge about plants. A list of plants is given in Annexure-1. Some pictures of IUBAT Green Campus are shown below:

Figure III: Floral diversity and green space in IUBAT Green Campus



Operational or construction activity considering sustainability

In pursuit of sustainable development, the university can contribute by its operational activity. Examples at IUBAT include initiatives to reduce energy use (e.g., solar panels on laboratory buildings), to save water (e.g., grey water reuse, and to reduce automobile commuting (e.g., bus transport system). Sustainability symbols are used in the wash rooms, classrooms and corridors to remind students continuously about energy and water saving

and waste management. The classrooms have large windows to maximize use of natural light. See Figure IV.

Despite Dhaka's position on a river delta, the availability of freshwater is very limited: rivers are polluted and the local groundwater level is falling. Reuse of grey water (water that has provided an initial use) could considerably decrease the pressure on fresh water sources.

Figure IV: Operational activities of the university for sustainable resource consumption

SUSTAINABILITY SYMBOLS



SUSTAINABILITY INITIATIVES IN IUBAT



3.4 KW Solar Panel



Using Natural light and air in the Classroom

Greywater reuse

Greywater reuse includes all household wastewater from kitchen sinks, dishwashers, laundry tubs, washing machines, showers, baths and basins (shown in Figure-V). Although greywater cannot be used for cooking, bathing, brush-

ing teeth, swimming or drinking, it reduces reliance on the mains water supply system, and allows gardens to be watered during drought periods. The treatment processes for household or building level includes:

- Biological systems, such as constructed wetlands or living wall sand bioreactors or more compact systems such as membrane bioreactors. These are variations of the activated sludge process, also used to treat sewage.
- Mechanical systems (sand filtration, lava filter systems and systems based on UV radiation)

Recently, IUBAT installed greywater reuse systems for gardening purpose shown in Table I. They are estimate to save 10,500 liters of water daily. Water consumption and different purpose water usage is shown in Figure-VI and Table-I.

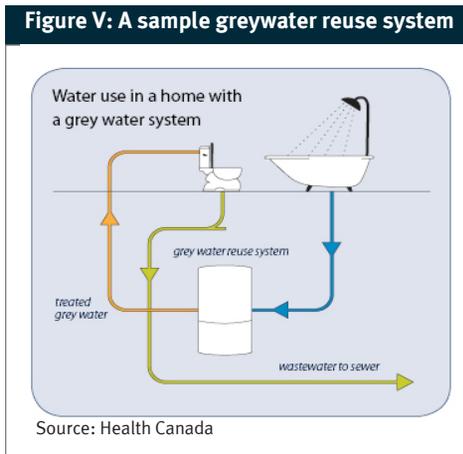
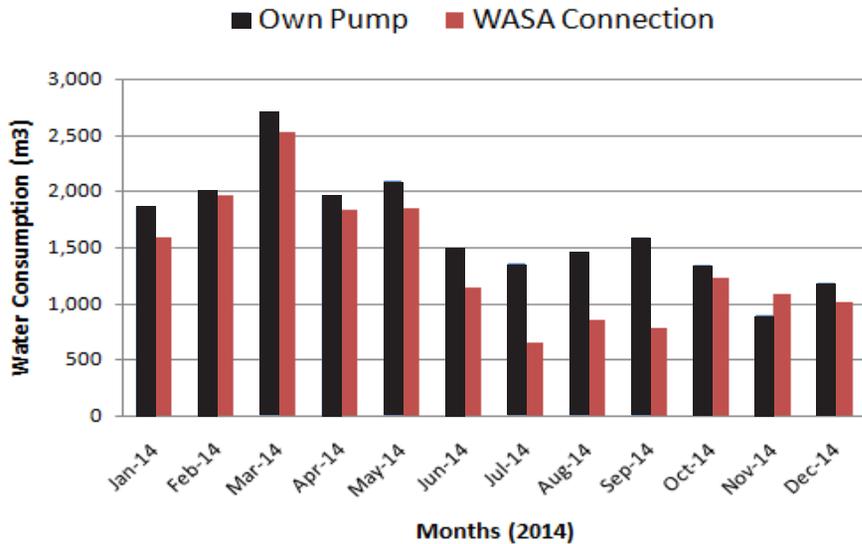


Fig VI: Water consumption in IUBAT University in different months of the year



Source: Badsha, 2016

Table I: Distribution of IUBAT water usage, by different user

SL No	Name of the Consumers	Purpose	Type of water	Amount consumed (L/day)	Consumption %
1	IUBAT Community	Drinking	Filtered	4163	52.5
		Washing	Supply Water	15725	
		Flushing	Supply Water	28675	
2	Lemon Lime	Kitchen	Supply Water	2775	4
		Drinking	Filtered	925	
3	Panoramic Cafeteria	Kitchen	Supply Water	3700	5.5
		Drinking	Filtered	1388	
4	University Laboratory	Washing	Supply Water	1850	2
5	Gardening	Watering	Supply Water	10638	11.5
6	Car Washing	Washing	Supply Water	8325	9
7	Floor Cleaners	Washing	Supply Water	2313	2.5
8	Civil Construction	Construction	Supply Water	12025	13
Total =				92,500	100

Source: Badsha, 2016

A real scale plant for using grey water for gardening is saving money and contributing to sustainability by reducing fresh water use [Badsha, 2016].

University transport

The university has a fleet of 30 buses with service to all corners of Dhaka metropolitan city. As a result, there are fewer cars parked at the campus. The bus service reduces traffic jams on the adjacent road, reduces carbon emission and the hazard of injury due to vehicle accidents.

Figure VII: Bus service in an organization reduces the use of cars, and hereby lowers the carbon footprint of the city.



Students: Youth Engagement

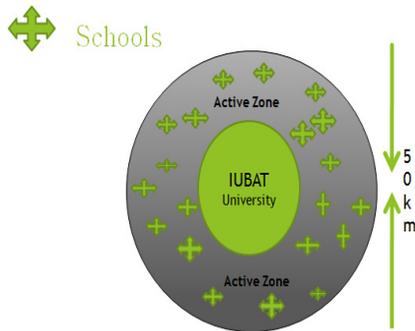
In the 8th Global RCE Meeting in Philippines in 2015, RCE Greater Dhaka led the Youth Session [8th AP-RCE Meeting, 2015]. It was agreed that students undertake community or social work as part of their environmental sustainability coursework. This improves students' capacity to work on critical environmental issue, learn in detail about sustainability and finally ensures an empathetic outlook on their surrounding community. This was put into practice in 2015 and 2016 in IUBAT. The projects include IUBAT students teaching a sustainable development education class in a school or college in the surrounding community. In the demonstration class, students explain the importance of tree plantation, biodiversity conservation, energy saving and other topics. Students made banners and placards that animated their class lectures; some students used quizzes and organized a prize-giving ceremony in their volunteer class. This kind of activity made students aware of local issues and provided them with the satisfaction of having done something for the society voluntarily. RCE Greater Dhaka basically trained up the immediate resource persons of these graduate students. Students have done some excellent work for the environment and the overall outcome of the projects are shown in Table II.

Active zone of Awareness

IUBAT is the central hub of an “active zone of awareness” comprising primary and secondary schools, and colleges within 50 km (See Figure- VIII). The goal of the youth engage-

ment program is to educate the students of all schools and colleges on ESD practices. Organizing an annual youth conference in the RCE Greater Dhaka is one of the responsibilities of the program [Dastagir, 2016].

Fig VIII: School campaign of RCE Youths for environmental awareness



Based on practical projects, constant feedback, and links to the community, students are learning sustainable entrepreneurship skills. Each youth individual entrepreneur becomes a future leader in every relevant environmental sector. The potential for sustainable development this century is immense. The main focus should therefore be on youth development. Moreover, engagement of youth does not mean only academic study; it also means the development of interpersonal skills, the urge to bring about changes in themselves.

Table II: Youth Campaign in Schools and Colleges (Total Students number/ semester: 150)

Summary of Activities in year 2015, 2016				
Sl no	School campaign	Location	Campaign theme	Online resources
1	Khandoker Rojob Ali Bidda Niketon	Tongi, Gazipur	Water Saving	facebook.com/iubatyf
2	Kaichabari Primary School	Savar, Gazipur	Recycling product	facebook.com/groups/lubatEnv
3	Abdur Rahman High School	Tongi, Gazipur	Health Hygiene	youtube.com/watch?v=88ucHc__lkl
4	Dhaka Brilliant School	Uttara, Dhaka	Slum Health	youtube.com/watch?v=nPlzTuWNueA
5	Golden Life Ideal School	Gazipur	Anti-smoking	greenearth.tk/work.html
6	Mazida high school	Tongi, Gazipur	Road safety	
7	Barakau Govt Primary school	Gazipur	Earthquake preparedness	
8	The Amirat School and College	Uttara 10, Dhaka	Tree Plantation	
9	Turag model school	Turag, Dhaka	Tree Plantation	
10	Talents High School and College	Azampur, Uttara, Dhaka	Biodiversity saving World Env Day 2016	facebook.com/iubatyf/
11	Brac School	Mirpur-2, Dhaka	Biodiversity saving World Env Day 2016	facebook.com/groups/lubatEnv/
12	Western Laboratory School	Uttara Sector 10, Dhaka	Biodiversity saving World Env Day 2016	youtube.com/watch?v=88ucHc__lkl
13	Paradise School and College	Uttara Sector 10, Dhaka	Biodiversity saving World Env Day 2016	youtube.com/watch?v=nPlzTuWNueA
14	Dhaka Paramount School and College	Uttara, Dhaka	Biodiversity saving World Env Day 2016	greenearth.tk/work.html
15	Brac Kishori Club	Dhaka	Biodiversity saving World Env Day 2016	
16	Mevis Int. School and Institute	9, Uttara, Dhaka	Biodiversity saving World Env Day 2016	
17	Dhour Govt. Primary School	Turag, Dhaka	Biodiversity saving World Env Day 2016	
18	Dr. Muhammad Shahidullah Model High School	Dhaka	Biodiversity saving World Env Day 2016	

Table II: Cont.

19	Blooming Flower International School and College	Uttara Dhaka	Biodiversity saving World Env Day 2016	facebook.com/iubatyf/
20	Grace International School	Uttara Sector 11, Dhaka	Biodiversity saving World Env Day 2016	facebook.com/groups/iubatEnv/
21	Uttara Ideal High School	Ranavola, Turag, Dhaka	Biodiversity saving World Env Day 2016	youtube.com/watch?v=88ucHc__lkl
22	Parashmoni Laboratory School	Uttara Sector 10, Dhaka	Biodiversity saving World Env Day 2016	youtube.com/watch?v=nPlzTuWNueA
23	Stamford College	Uttara, Dhaka	Biodiversity saving World Env Day 2016	youtube.com/watch?v=nPlzTuWNueA

Challenges and Future Direction of ESD program

Enormous challenges exist in the ESD program of RCE Greater Dhaka. The regional centre would like an integrated effort among IUBAT faculty, administration, engineering and student body on behalf of sustainable development. The biggest limitation for a non-government institution in a developing country is lack of resources. For five of the last six years, IUBAT received the United Nations University global RCE centre best sustainability practice award. However, IUBAT needs financial support from home and abroad for its sustainable development program. Another challenge is realizing effective coordination among faculty members, students, administration and engineering department. Knowledge gaps exist and not all within IUBAT are equally informed about the potential for sustainable development. Greater awareness has to be developed.

In summary, the future direction of this regional centre requires the following:

- Extending and strengthening partnership with UNESCO
- Expand ESD from IUBAT University to other universities, and then school and colleges
- Create green campuses in other educational institutions as at IUBAT
- Develop an ESD textbook with appropriate pedagogy and local context
- Involve rural communities through the Knowledge Based Area Development (KBAD) program of IUBAT for financial assistance to marginalized people across the country

Conclusion

RCE Greater Dhaka is trying to scale up ESD in a holistic way. This requires integrating activities among different components of the university – among faculty, students, administration and operation on behalf of sustainable development. There are enormous challenges

in this process but many obstacles have been overcome. Sustainable Development education by developing appropriate course curricula is the biggest achievement so far: 7000 students have been trained on sustainable development education. Youth are being activated through school-based project work; awareness campaigns have been undertaken in 50 schools. The IUBAT campus is noticeable in Dhaka city for its greenery and floral diversity. We now consider environmental impacts for all construction projects on the campus and integrate sustainability in engineering processes. A sustainability culture is gradually developing in the university. This is very optimistic indeed.

Acknowledgement

RCE Greater Dhaka is deeply acknowledging its founder Chairman and late Vice-Chancellor Professor Dr. M Alimullah Miyan for his active support of sustainable development education in IUBAT.

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Annexure – I

Floral Biodiversity in IUBAT University campus

SL	Common Name	Scientific Name	Family	Number
1	Krishnachura	<i>Delonix regia</i>	Fabaceae	131
2	Mahogany	<i>Swietenia macrophyllus</i>	Meliaceae	85
3	Alamanda	<i>Allamanda cathartica</i>	Apocynaceae	35
4	Thuja	<i>Platyclusus orientalis</i>	Cupressaceae	30
5	Banana	<i>Musa acumita</i>	Musaceae	25
6	Mango	<i>Mangifera indica</i>	Anacardiaceae	23
7	Jackfruit	<i>Artocarpus heterophyllus</i>	Moraceae	20
8	Chip Bash(Bamboo)	<i>Bambusa sp.</i>	Poaceae	20
9	Palmyra palm	<i>Borassus flabellifer</i>	Arecaceae	18
10	Guava	<i>Psidium guajava</i>	Myrtaceae	13
11	Baganbilas	<i>Bougainvillea spectabilis</i>	Nyctaginaceae	10
12	Ixora/Rangon	<i>Ixora coccinea</i>	Rubiaceae	10
13	Ivory Cane Palm	<i>Pinanga coronata</i>	Aracaceae	10
14	Basil/Tulsi	<i>Ocimum tenuiflorum</i>	Lamiaceae	10
15	Mast Tree/Debdaru	<i>Polyalthia longifolia</i>	Annonaceae	8
16	Gmelina/Gamar	<i>Gmelina arborea</i>	Lamiaceae	8
17	Plum/Boroi	<i>Ziziphus mauritiana</i>	Rhamnaceae	8
18	Lemon/Lebu	<i>Citrus limon</i>	Rutaceae	8
19	Bokul	<i>Mimosops elengi</i>	Sapotaceae	7
20	Arjun	<i>Terminalia arjuna</i>	Combretaceae	6
21	Rain tree	<i>Albizia saman</i>	Fabaceae	5
22	Fig/Bot	<i>Ficus carica</i>	Moraceae	5
23	Neem	<i>Azadirachta indica</i>	Meliaceae	5
24	Blackberry/Kalojam	<i>Syzygium cumini</i>	Myrtaceae	5
25	Cinamon/Daruchini	<i>Cinnamomum verum</i>	Lauraceae	5
26	Kadam	<i>Neolamarckia cadamba</i>	Rubiaceae	5
27	Madhobilota	<i>Hiptage benghalensis</i>	Malpighiaceae	5
28	Oil palm	<i>Elaeis guineensis</i>	Arecaceae	4
29	Shishu	<i>Dalbergia sissoo</i>	Fabaceae	4

SL	Common Name	Scientific Name	Family	Number
30	Papaya	<i>Carica papaya</i>	Caricaceae	4
31	Coconut	<i>Cocos Nucifera</i>	Arecaceae	4
32	Togor	<i>Tabernaemontana divaricata</i>	Apocynaceae	4
33	Kathgolap	<i>Plumeria alba</i>	Apocynaceae	4
34	Rajkoro	<i>Albizia richardiana</i>	Fabaceae	3
35	Cycas	<i>Cycas pectinatus</i>	Cycadaceae	3
36	Jarul	<i>Lagerstroemia speciosa</i>	Lythraceae	3
37	Kopper's tree	<i>Peltophorum pterocarpum</i>	Fabaceae	3
38	Ataphol	<i>Annona cherimola</i>	Annonaceae	3
39	Bay leaf/Tejpata	<i>Cinamomum tamala</i>	Lauraceae	3
40	Ebony/Bilati gaab	<i>Diospyros blancoi</i>	Ebenaceae	3
41	Olive/Jalpai	<i>Elaeocarpus floribundus</i>	Elacocarpaceae	3
42	Kamini	<i>Murraya paniculata</i>	Rutaceae	3
43	Sunalu	<i>Cassia fistula</i>	Fabaceae	2
44	Pomegranate/Dalim	<i>Punica granatum</i>	Lythraceae	2
45	Areca nut/Supari	<i>Areca catechu</i>	Arecaeae	2
46	Starfruit/Kamranga	<i>Averrhoa carambola</i>	Oxalidaceae	2
47	Amloki	<i>Emblica officinalis</i>	Phyllanthaceae	2
48	Litchi	<i>Litchi chinensis</i>	Sapindaceae	2
49	Hog plum/Amra	<i>Spondias dulcis</i>	Anacardiaceae	2
50	Date/Khejur	<i>Phoenix dactylifera</i>	Arecaceae	2
51	Clove/Lobongo	<i>Syzygium aromaticum</i>	Myrtaceae	2
52	Wax apple/Jamrul	<i>Syzygium samarangense</i>	Myrtaceae	2
53	Monkey jack/Deowa	<i>Artocarpus lacucha</i>	Moraceae	2
54	Cardamom/Elach	<i>Elettaria cardamomum</i>	Zingiberaceae	2
55	Henna/Mehedi	<i>Lawsonia innermis</i>	Lythraceae	2
56	Garcinia/Kao	<i>Garcinia cowa</i>	Clusiaceae	3
57	Tamarind/Tetul	<i>Tamarindus indica</i>	Fabaceae	1
58	Drumstick/Sajna	<i>Moringa oleifera</i>	Moringaceae	1

SL	Common Name	Scientific Name	Family	Number
59	Sapodita/Sofeda	<i>Achras sapota</i>	sapotaceae	3
60	Castor/Veranda	<i>Ricinus communis</i>	Euphorbiaceae	1
61	Dragon fruit	<i>Hylocereous undatus</i>	Cactaceae	1
62	Pomelo/Jambura	<i>Citrus maxima</i>	Rutaceae	1
63	Wood apple/Bel	<i>Aegle marmelos</i>	Rutaceae	1
64	Avocado	<i>Persea americana</i>	Lauraceae	1
65	Lotkon	<i>Baccaurea sapida</i>	Phyllanthaceae	1
66	Fig/Dumur	<i>Ficus carica</i>	Moraceae	1
67	Agar tree	<i>Aquilaria malaccenaia</i>	Thymelaeaceae	1
68	Elephant apple/Chalta	<i>Dillenia indica</i>	Dilleniaceae	1
69	Wax apple/Golap jam	<i>Syzygium jambos</i>	Myrtaceae	1
70	Orboroi	<i>Phyllanthus acidus</i>	Phyllanthaceae	2
71	Malotilata	<i>Combretum indicum</i>	Combretaceae	10
72	Myrobalan/Haritaki	<i>Terminalia chebula</i>	Combretaceae	1
73	Grape/Angur	<i>Vitis vinifera</i>	Vitaceae	6
74	Rambutam	<i>Nephelium lappaceum</i>	Sapindaceae	1
75	Sonalu	<i>Cassia fistula</i>	Fabaceae	1
76	Marula Tree	<i>Scelerocarya birrea</i>	Anacardiaceae	6
77	Musanda	<i>Mussaenda erythrophylla</i>	Rubiaceae	3
78	Shehora	<i>Streblus asper</i>	Moraceae	5
78	Acai palm	<i>Euterpe oleracea</i>	Arecaceae	1
79	Custard apple/Sharifa	<i>Annona squamosa</i>	Annonaceae	3
80	Basil/Babui Tulsi	<i>Ocimum basilicum</i>	Lamiaceae	10
81	Pitali	<i>Trewia nudiflora</i>	Euphorbiaceae	17
82	Peacock/Radhachura	<i>Caesalpinia pulcherrima</i>	Fabaceae	5
83	Arjuna/Arjun	<i>Terminalia arjuna</i>	Combretaceae	2
84	Jiga/Jeol Bhadi	<i>Lannea coromandelica</i>	Anacardiaceae	5
85	Karinda/ Karamcha	<i>Carissa carandas</i>	Apocynaceae	1
86	Kanchon	<i>Phanera variegata</i>	Fabaceae	1
Total Number of Plant				777