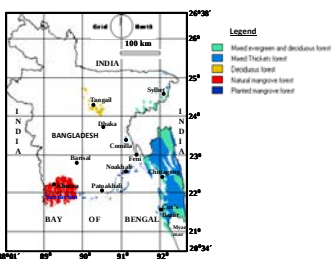


FOREST HEALTH IN BANGLADESH

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Map 1. Forest cover in Bangladesh (Al-Amin, 2011)

Basic Facts of Bangladesh

Total family :	17,600,804
Total farm holding :	15,089,000
Total area :	14.845million hectare
Forest :	2.599 million hectare
Cultivable land :	8.44 million hectare
Cultivable waste :	0.268 million hectare
Current fellow :	0.469 million hectare
Cropping intensity :	175.97%
Single cropped area :	2.851 million hectare
Double cropped area :	3.984 million hectare
Triple cropped area :	0.974 million hectare
Net cropped area :	7.809 million hectare
Total cropped area :	13.742 million hectare
Contribution of agriculture sector to GDP :	23.50%
Contribution of crop sector to GDP :	13.44%
(Source: BBS, 2006).	

More than 95 % of the area of Bangladesh is owned by individuals (81%) or by the state (14%). Indigenous ownership constitutes 2.5 %.

In “Cultivated land” and “Villages” almost 100 % of the area is individually owned. In “Forest” and “Inland water” about 50 % of the area is state-owned.

Approximately 20 % of the “Forest” area is owned by indigenous groups. (FD, 2009)

Land uses of Bangladesh

Land Use Category	Area (M Ha)	Percent
Agriculture	9.57	64.9
<u>State Forest</u>		
Classified	1.52	10.3
Unclassified	0.73	5.0
<u>Private Forest</u>		
Homestead	0.27	1.8
Tea/Rubber Garden	0.07	0.5
<u>Urban and others</u>		
Urban	1.16	7.9
Water	0.94	6.4
Other	0.49	3.2
Total	14.75	100

Forest Land uses of Bangladesh

Category of Forests	Area (M Ha)	Percentage
Forest Department Managed Forests	1.52	10.30
Unclassed State Forest	0.73	4.95
Village Forest	0.27	1.83
Total	2.52	17.08

Ecologically forest Lands of Bangladesh

Types of Forest	Area (m ha)	Percentage
Natural Mangrove Forest and Plantation	0.73	4.95
Tropical evergreen and semi- evergreen Forest	0.67	4.54
Tropical moist deciduous Forest	0.12	0.81
Total	1.52	10.3

Domain		Areas in million hectares (Mha)	% of total forest area
Public	Administered by government	1.52	10.3
	Designated for use by communities and indigenous groups	0.73	5
Private	Owned by communities and indigenous groups	**	**
	Owned by individuals and firms	0.27	1.8

Protected Areas

Sl. No.	National Parks	Location	Area (ha.)	Established
1	Bhawal National Park	Gazipur	5022.00	11-5-1982
2	Modhupur National Park	Tangail/ Mymensingh	8436.00	24-2-1982
3	Ramsagar National Park	Dinajpur	27.75	30-4-2001
4	Himchari National Park	Cox's Bazar	1729.00	15-2-1980
5	Lawachara National Park	Moulavibazar	1250.00	7-7-1996
6	Kaptai National Park	Chittagong Hill Tracts	5464.00	9-9-1999
7	Nijhum Dweep National Park	Noakhali	16352.23	8-4-2001
8	Medha Kachhapia National Park	Cox's Bazar	395.92	8-8-2008
9	Satchari National Park	Habigonj	242.91	15-10-2005
10	Khadim Nagar National Park	Sylhet	678.80	13-04-2006
11	Baraiyadhala National Park	Chittagong	2933.61	06-04-2010
12	Kuakata National Park	Patuakhali	1613.00	24-10-2010
13	Nababgonj National Park	Dinajpur	517.61	24-10-2010
14	Shingra National Park	Dinajpur	305.69	24-10-2010
15	Kadigarh National Park	Mymensingh	344.13	24-10-2010
		Sub-Total	45312.65	

B) Wildlife Sanctuaries : Protected Areas continue..				
Sl. No.	Wildlife Sanctuaries	Location	Area (ha.)	Established
16	Rema-Kalenga Wildlife Sanctuary	Hobigonj	1795.54	7-7-1996
17	Char Kukri-Mukri Wildlife Sanctuary	Bhola	40.00	19-12-1981
18	Sundarban (East) Wildlife Sanctuary	Bagerhat	31226.94	6-4-1996
19	Sundarban (West) Wildlife Sanctuary	Satkhira	71502.10	6-4-1996
20	Sundarban (South) Wildlife Sanctuary	Khulna	36970.45	6-4-1996
21	Pabla khali Wildlife Sanctuary	Chittagong Hill Tracts	42087.00	20-9-1983
22	Chunati Wildlife Sanctuary	Chittagong	7763.97	18-3-1986
23	Fashiakhali Wildlife Sanctuary	Cox's Bazar	1302.43	11-4-2007
24	Dudh Pukuria-Dhopachari Wildlife Sanctuary	Chittagong	4716.57	6-4-2010
25	Hazarikhil Wildlife Sanctuary	Chittagong	1177.53	6-4-2010
26	Sangu Wildlife Sanctuary	Bandarban	2331.98	6-4-2010
27	Teknaf Wildlife Sanctuary	Cox's Bazar	11615.00	24-03-2010
28	Tengragiri Wildlife Sanctuary	Barguna	4048.58	24-10-2010
		Sub-Total	216578.90	
		Grand-Total	261891.50	

Protected Areas continue..

Other Conservation Sites

Name	Location	Area (ha.)	Established
1 National Botanical Garden	Dhaka	84.21	1961
2 Baldha Garden	Dhaka	1.37	1909
3 Madhabkunda Eco-Park	Moulavibazar	265.68	2001
4 Sitakunda Botanical Garden and Eco-park	Chittagong	808	1998
5 Dulahazara Safari Parks	Cox's Bazar	600	1999

*****Protected Area Covers 10.7%
of Total Forest Area***

**Potential land for local people for
afforestation programmes**

No.	Trend on handover of forests to local communities	Area in Million Hectare
A	Degraded & denuded land of Unclassed State Forest Land	1.00
B	Khas lands	0.56
C	Degraded government forest land	0.27
D	Marginal strip land	0.08
E	Homestead marginal land	0.27
F	Degraded tea garden land	0.06
G	Degraded private forest land	0.05
H	Cropland Agroforestry on private agricultural lands	2.36
Total Available Land for Social Forestry		4.65

- ❖Community Forestry Project (ADB Loan No. 555-BAN; EA:FD; Duration 1981-1988);
- ❖Upazila Afforestation and Nursery Development Project (ADB Loan No.0956-BAN [SF]; EA: FD; Duration 1989-1996);
- ❖Coastal Green Belt Project: (ADB Loan No.1353-BAN[SF]; EA: FD; Duration 1995-2002);
- ❖Forest Resources Management Project: Forest Directorate Component (IDA Grant and WFP Assistance Duration: 1992-2001 EA: FD)
- ❖Forestry Sector Project (ADB Loan No. 1468-BAN[SF]; Duration: 1998-2004, EA: FD).
- ❖Sundarban Biodiversity Conservation Project (Currently suspended Loan No. 1643-BAN[SF]; EA: FD; Duration 1999-2006)

❑A total of 34,180 ha (about 31.89%) and 38269.72 ha forest land have been degraded and encroached respectively (Ghani *et al.*, 1990; FD, 2004). Tree covers exist only in 32% area (Huq & Alim, 1995).

Legal settings: Forest Act, Policy and Rules

- ❑National Forestry Policy, 1994
- ❑Social Forestry (Amended) Rules 2010
- ❑The Forest Act 1927 (as amended : 2000)
- ❑Bangladesh Wildlife (Preservation) Order, 1973 (as amended up to 1974)
- ❑Bangladesh Spotted Deer Rearing Policy-2009
- ❑Compensation Policy for Causalities Caused by Wildlife
- ❑Brick Burning (Control) (Amendment) Act, 2001
- ❑Transit Rule for Bangladesh 2011

Forest Policy 1994 (Key features)

❖ Because of limited amount of forestland, effective measures will be taken for afforestation in rural areas, in the newly accreted char in the coastal areas and in the denuded Unclassed State Forest areas of Chittagong Hill Tract and northern zone of the country including the Barind tract.

❖ Private initiatives will be encouraged to implement programs of tree plantation and afforestation on fallow and hinterland, the bank of the pond and homestead land, which are under private ownership.

Forest Policy 1994 (continue...)

❖ Tree plantation on the courtyards of rural organization such as Union Parishad, school, eidgah, mosque-moktob, temple, club, orphanage home, madrassa etc. and other fallow lands around can be initiated. The government will encourage this type of initiative and extend technical and other supports.

❖ Massive afforestation on either side of land surrounding road, rail, dam and khas tank through the partnership of the local people and the NGOs will be commenced. Side by side, rubber plantation will be encouraged in all suitable areas of the country including Chittagong Hill Tract, Sylhet and Modhupur.

Forest Policy 1994 (continue...)

❖ The priority protection areas are the habitats, which encompass representative samples of flora and fauna in the core area of National Parks, Wildlife Sanctuaries and Game Reserves. Attempts will be made to increase the amount of this protected area by 10 % of the reserved forest land by the year 2015.

❖ The areas under the reserved forest, which have been denuded or encroached, will be identified. Afforestation in these lands will be done through people's participation.

Driving factors triggering the change of forest Health

- ❑ Over population : Competition to grab a piece of land in a land hungry country
- ❑ Popular thoughts: Mismanagement of forest land by the government machineries particularly dishonesty(?), political influences, and breach of government trust (!!)
- ❑ New Industrial expansion such as different chemical and Garments Industries (Sal Forest); Ship breaking and Shrimp cultivation (Planted mangrove); Tobacco cultivation and land grabbing for real estate business i.e. housing (Hill forest) etc. enhance encroachment and illicit felling of forest trees.



Tobacco cultivated area

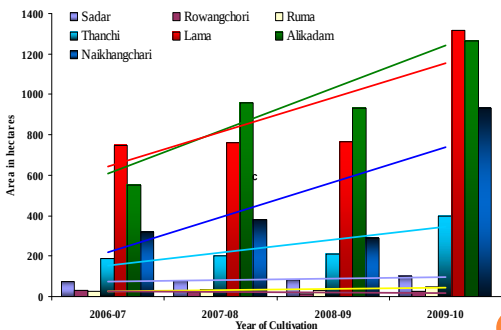


Figure 1: Annual increase of tobacco cultivated area

Growing ship breaking industry: conflict with planted mangrove

The research revealed that the area of existing coastal plantation is measured approximately 490 hectare and the area of ship breaking yard are measured 310 hectare. This is a 20 years of plantation and total organic carbon (tree: 128.74 tonne/hectare; litter: 0.01 tonne/hectare; soil: 24.07 tonne/hectare) stock in the plantations are 152.82 tonne/ha. The tree organic carbon stock per hectare plantation are found in 128.74 tonne. So, from 310 hectare in ship yard area approximately 40,000 metric tonne tree organic carbon are loss due to the ship breaking activities and other purposes.



Figure: Kattoli coastal plantation area and ship breaking area

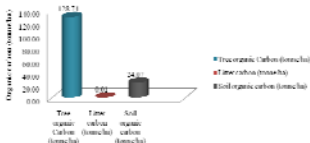
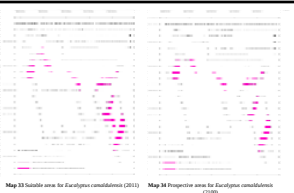


Figure: Total carbon stock (tonne/ha) in the study site

Considering Changing Climate



Map 34 Prospective areas for *Eucalyptus camaldulensis* (2100)



Map 36 Prospective areas for *Lantana incensephala* (2100)

Study Concludes...

- There were some studies on agriculture and urban of Bangladesh, however, concrete forest health information and data yet to publish;
- NFA data and methodology are aimed to get forest tree cover in a global format not putting any emphasis on forest health assessment of Bangladesh;
- Emerging forest land conflicts need to identify and visualize to policy maker (using GIS model) to take appropriate decisions;
- Bangladesh is the most vulnerable country for climate change, that may come out one of the major driving factor for forest health in future.

Relevant readings:

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