

Sustainable forest resource management



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The Forest Act of 1927 was amended in 1989 to provide deterrent penalties for certain forest offences and further modified in 2000 to add provision for social forestry. To elaborate the social forestry procedure Social Forestry Rules were framed in 2004 under the Forest Act, 1927 and Forest Transit Rules were framed in 2011.

The Brick Burning (Control) Act enacted for the first time in July 1989 to ban firewood for brick burning that has been substituted by the Brick Manufacturing and Kiln Construction (Control) Act, 2013 (Act No. 59 of 2013) with effect from July 1, 2014 to meet the current context. Enforcement of these laws is weak, primarily due to the lack of adequate and skilled man power and also inadequate financial support. Lack of coordination with law enforcement agencies and local administration further aggravates the situation.

Institutional capacity for sustainable forest resources management

BFD still lacks the resources capability, and skilled manpower for sustainable management, monitoring and coordinating with other ministries and agencies. It does not have representation with qualified professionals at upazila and district levels. Hence, coordination with other agencies suffers. Currently, total strength of the BFD is 10,224. One forest guard patrols on an average 1430 hectare of forests in Bangladesh compared to 500 hectares in India. It is impractical to monitor and control such a large forest area which is freely accessible from all sides. In 2010, the BFD proposed for a total 19,635 personnel for the department which revised to 13,822 in 2016. Meanwhile, one-fifth of the current sanctioned posts are lying vacant and progress of recruitment is deficient. Forestry is specialised technical professional discipline which requires both academic and technical understanding on ecosystems dynamics and forests resources. Currently, several universities have been offering professional forestry education, however, these graduate do not receive appropriate attention in forestry sector recruitment.

It is to be noted that over one hundred NGOs are engaged in social forestry/community forestry and homestead forestry promotional

activities and is a major contribution. **Demand and supply gap of forest goods and services**

Production of forest goods and services could never keep pace with the ever increasing demand with population and economic growth. A huge amount of energy is wasted in the country through the use of traditional stoves for cooking. Wide and increased use of improved stoves is a must and has significant health benefits. The gap between demand and supply has been increasing with the increase of population. The gap may be narrowed by planting appropriate species (indigenous) in denuded areas, wastelands, chars, marginal lands as well as homestead areas. The consequences of persistent widening demand and supply gap are: (1) unauthorised felling of trees from state forests, (2) over-cutting of village forests, (3) increased use of non-traditional energy sources, and (4) raw material scarcity for wood based industries.

Degradation of mangrove forests

The amount of the Ganges water flow into Bangladesh has been hampered and reduced by the amount of water drawn at the Farakka Barrage in India. The Ganges flow in 1962 was 3700 cubic m/s whereas it was 364 cubic m/s in 2006. Reduction in flow rate of the Ganges and diversion of it water at Farakka Barrage from early 1975 has resulted in high salinity in the upstream areas and, the water and soil salinity has increased. Consequently, both siltation and increased salinity have degraded water quality in the Sundarbans' rivers, and pose threats for mangrove ecosystems. In last 10 years, several cyclones have passed over the Sundarbans; the most devastating one was the cyclone Sidr which occurred on the night of November 15, 2007. There was huge damage to the Sundarbans mangroves in terms of biodiversity and physical infrastructure. The most important tree species Sundri (Heritiera fomes), which constitutes over 60 percent of the total timber of the Sundarbans, has been affected by a top dying syndrome. From the analysis of satellite images it is seen that the distribution of Sundri, Gowa and Goran in Sundarbans is rapidly changing. This may be due to sea level rise associated with climate change and fresh water flush.

REDD and REDD+ in reducing poverty and conserving forest resources

The global commitment expressed at COP 15 of the climate convention to designing and financing an initiative to save the world's forest under Reducing Emissions from Deforestation and Forest Degradation (REDD) provides an opportunity to transform the forestry sector. Recent discussions regarding distribution of benefits to indigenous people and forest-dependent communities participating in REDD projects is often limited to possible payments from carbon credits. If REDD is to address poverty in a meaningful way it must break out of conventional small livelihood subsidy approaches, and instead allow communities to build capital assets that provide financial resources for innovative entrepre-

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neurial activities with significant growth potential over time. This will only succeed through the meaningful empowerment of forest dependent peoples. The BFD with technical assistance from the Food and Agriculture Organisation (FAO) is implementing a project titled "Strengthening National Forest Inventory and Satellite Land Monitoring System in support of REDD+ in Bangladesh". A system for Measuring, Reporting and Verifying (MRV) REDD+ results is essential to the results-based approach of REDD+. Remote sensing and GIS

(RS&GIS) are often used along with inventories and other ground surveys for REDD+ preparation.

Remote Sensing and GIS for sustainable forest resources management

RS & GIS are the tools much appreciated for its capabilities in visualising spatial and temporal dynamics of resources with a "bird's eye view" that facilitate an ecosystem and landscape level perspective. RS and GIS syntheses of ecosystem coupled with socio-economic information towards understanding potentials of different classes in ecosystems facilitate eco-restoration of degraded ecosystems. Synthetic aperture radar (SAR) sensors on board several satellites (ERS-1, JERS-SAR, Envisat, RADARSAT-I, II) can be used to quantify forest carbon stocks. LiDAR remote sensing far exceeds the capabilities of radar and optical sensors to estimate vegetation health and carbon stocks for all forest types. These are cost effective and useful tools to be used more in the forest management practices.

Way forward

A comprehensive paradigm shift in policy and strategy is required to resolve tenure issues, ensures sustainable livelihoods, and conservation. Immediate programmes to afforest/reforest degraded forests, denuded hills in CHT and greater Chittagong region, fallow lands, feeder roads, highways, railways and embankment, and newly accreted char land through participatory approaches.

Natural Regeneration Plots (NRPs) need to be maintained around plantations in natural forests areas. USF lands in the Chittagong Hill Tracts may be brought under Social Forestry Programme. Encroached forest areas are to be brought under social forestry and agro-forestry practices. NGOs/CSOs may be engaged for participatory afforestation, forest management, awareness building, training and stakeholder group formation. Business models for ecotourism with conservation focus need to be adopted. The practice of large-scale plantation of exotics needs to be replaced with indigenous species.

Forest Department urgently needs to be reorganised and reinvigorated with provision for immediate recruitment of professional foresters with right academic and skill trainings. A separate unit for resource inventory and monitoring at BFD may be created for maintaining continuous inventory.

Forest boundary demarcation needs to be completed as soon as possible. Here remote sensing and GIS may be of help. All encroachments in hill forests are to be recovered by strict enforcement with strict adherence CHT Agreement, existing laws.

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The non-forest use of forest land should be restricted.

Optimised consumption of fuel wood, timber and bamboos by popularising improved cook stoves, introducing biogas, strictly enforcing the ban on use of wood fuel in brick fields, creating mass awareness on the benefits of using seasoned and treated timber, enforce the use of standardised wooden components for doors, windows and furniture are needed.

Forestry research needs to be strengthened at BFD and Bangladesh Forest Research Institute (BFRI) through ensuring adequate human resources and logistics. Academic institutions need to be engaged with forestry operation and management research. The Sundarbans forest is to be managed for integrated development of all resources in the area including wildlife and fishery and other aquatic fauna and honey. Coastal afforestation needs to be strengthened and continued to create a continuous "Coastal Greenbelt". The afforestation of newly accreted coastal and riverine char lands with participatory co-management needs to be taken.

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আইসি বি

পুঁজি বাজারের একটি অনন্য ও নির্ভরযোগ্য প্রতিষ্ঠান

দেশের দ্রুত শিল্পায়ন, পুঁজি বাজার উন্নয়ন এবং তথ্য প্রযুক্তির প্রসারে আইসিবির রয়েছে বহুমুক্তিক কার্যক্রম:

১. এককভাবে ও সিভিকেট গঠনের মাধ্যমে লিজ অর্থায়ন;
২. বিনামূল বিনিয়োগ হিসাবে শেয়ার কেনার জন্য খণ্ড ও বিনিয়োগ সংক্রান্ত পরামর্শ প্রদান;
৩. ইঞ্জিনিয়ার এন্ড এক্স্টেন্সিভ ফাউন্ডেশন ফাউন্ডেশন (ইঞ্জিনিয়ারিং ও ব্যাংকিং প্রযোজন প্রদান);
৪. ব্যাংকের টু নি ইস্যু হিসেবে দায়িত্ব পালন ও ব্যাংক গ্যারান্টি প্রদান;
৫. ট্রান্সিট ও কাস্টোডিয়ান হিসেবে দায়িত্ব পালন;
৬. আইসিবি ইউনিট ও আইসিবি এমএসএল ইউনিট ফাউন্ডেশন সার্টিফিকেট লিয়েন রেখে অধিম প্রদান;
৭. প্রেসেমেন্ট ও ইকুয়িটি পার্টনার্সিপেশনসহ সরাসরি শেয়ার ও ডিবের্শন ক্রয়; এবং
৮. পুঁজি বাজার সংক্রান্ত অন্যান্য আনুষাঙ্গিক কার্যক্রম।

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