

Forest Resources of Bangladesh

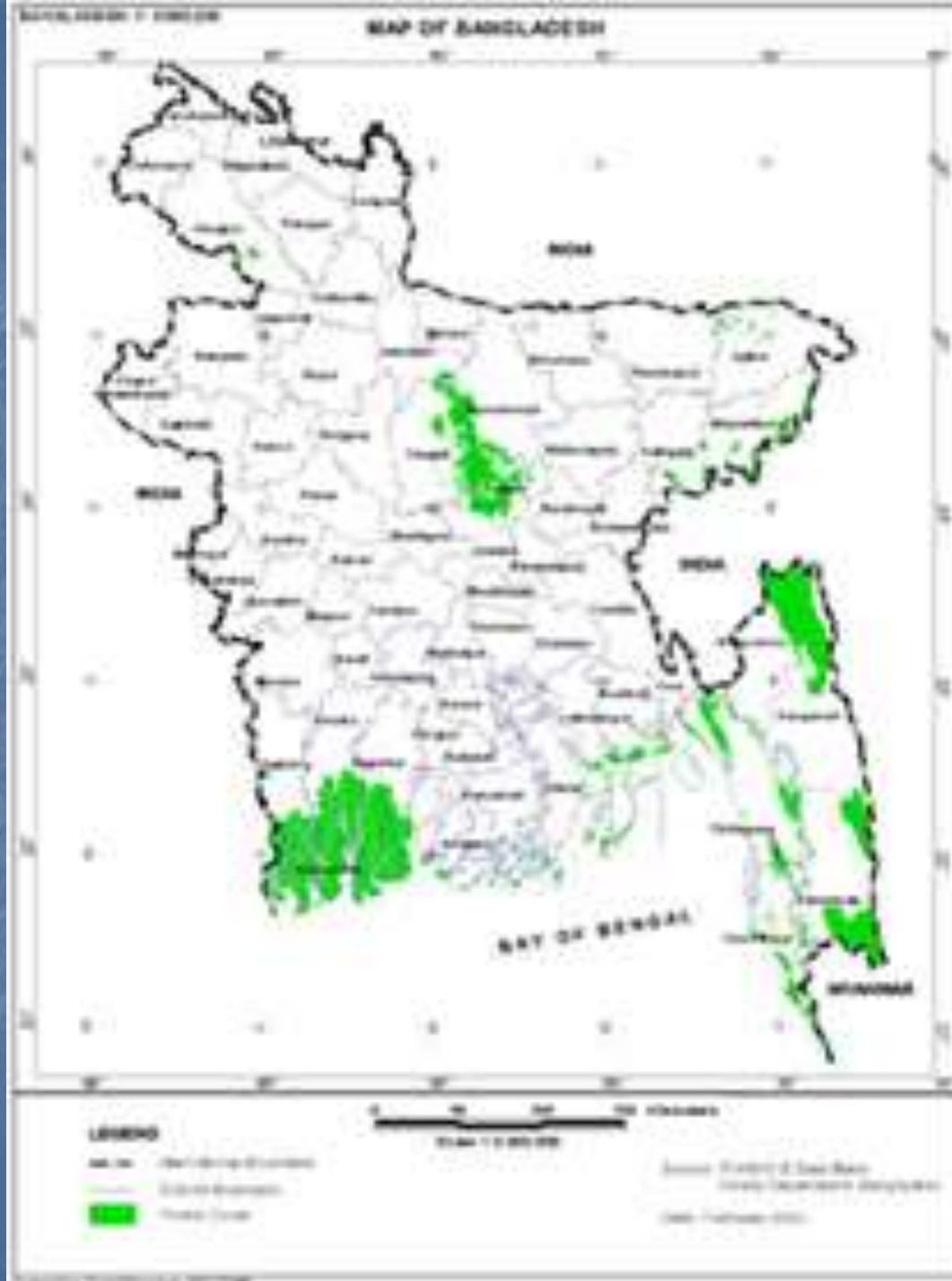
Forest resources

Forest is a very important renewable resource in Bangladesh. It provides materials like timber, pulp, pole, fuel wood, food, medicine, habitat for wildlife and **primary base for biodiversity**.

It also provides oxygen, controls or reduces the intensity of the cyclones and tidal surges in the coastal areas of Bangladesh, **influences the rainfall**, and sustained water yield in the river systems etc.

In the past three decades, the stock of forest trees has declined at an alarming rate.

It is estimated that the forest cover has been **reduced more than 50 percent** since the 1970s.



Distribution of
forest coverage
in Bangladesh

Forest Distribution

Three types of public forests are:

1. Hill Forests: The hill forests of Bangladesh are situated at the eastern border of the country. The relatively high altitude hills are found in Chittagong Hill Tracts.

Hill forests of Bangladesh are ecologically divided into two classes:

(a) Tropical wet evergreen forests, and

(b) Tropical semi-evergreen forests

Forest Distribution.....

(a) Tropical wet evergreen forests:

- The trees in the top canopy reach a **height of 46-61 m**. These forests occur usually in hills and moist shady areas in Chittagong Hill Tracts (Khagrachari, Rangamati and Bandarban), Sylhet, Habigonj, Moulvibazer, Sunamganj, Cox's Bazar and Chittagong.

(b) Tropical semi-evergreen forests

- This type of forests occurs in Cox's Bazar, Chittagong, CHTs and Sylhet, in more exposed dry locations. The top canopy reaches a **height of 25-57 m**.

Forest Distribution.....

2. Tropical Moist Deciduous Plain Land Forests:

- The tropical moist deciduous forests are popularly known as **sal forests**. These occur in Dhaka, Gazipur, Tangail, Mymensingh, Sherpur, Jamalpur, Netrokona, Dinajpur, Rangpur, Naugaon, and in degraded form in Comilla.
- The trees are **10-25 m high** and mostly deciduous.

Forest Distribution.....

3. Mangrove Forests:

- Mangrove forests, both natural and plantation, are very important forest resources in Bangladesh. These are also called coastal swamp forests and are mainly evergreen forests of varying density and height, always associated with wet soils.
- The mangrove forests are well developed in the Sundarbans on the Ganges- Brahmaputra Delta, but very poorly developed in the Chakaria Sundarbans.
- The mangrove forest acts as a natural barrier to cyclones and tidal bores, and protects the densely populated agricultural areas to its north.

Forest Distribution.....

- The Sundarbans also act as the **world's largest mangrove carbon sink**. These are also an important **spawning ground for fishes** and harboring a very rich biodiversity.

Homestead Forests:

- Planting trees near homesteads is a traditional land use system in Bangladesh. Homestead forests develop as small groves scattered around homesteads through ecological and anthropogenic selections.

Main causes of deforestation

- Increasing population;
- Increasing demand for cultivable land;
- Transfer of land for industrialisation, urbanization and communication infrastructure;
- The unlawful taking of forest products from forest area;
- Encroachment and shifting cultivation, particularly in the hill-tracts region;
- Introduction of agriculture and exotic species;
- Brick Fields, Saw Mills, Tobacco Cultivation, &
- Policy Conflict.

Medicinal Plant

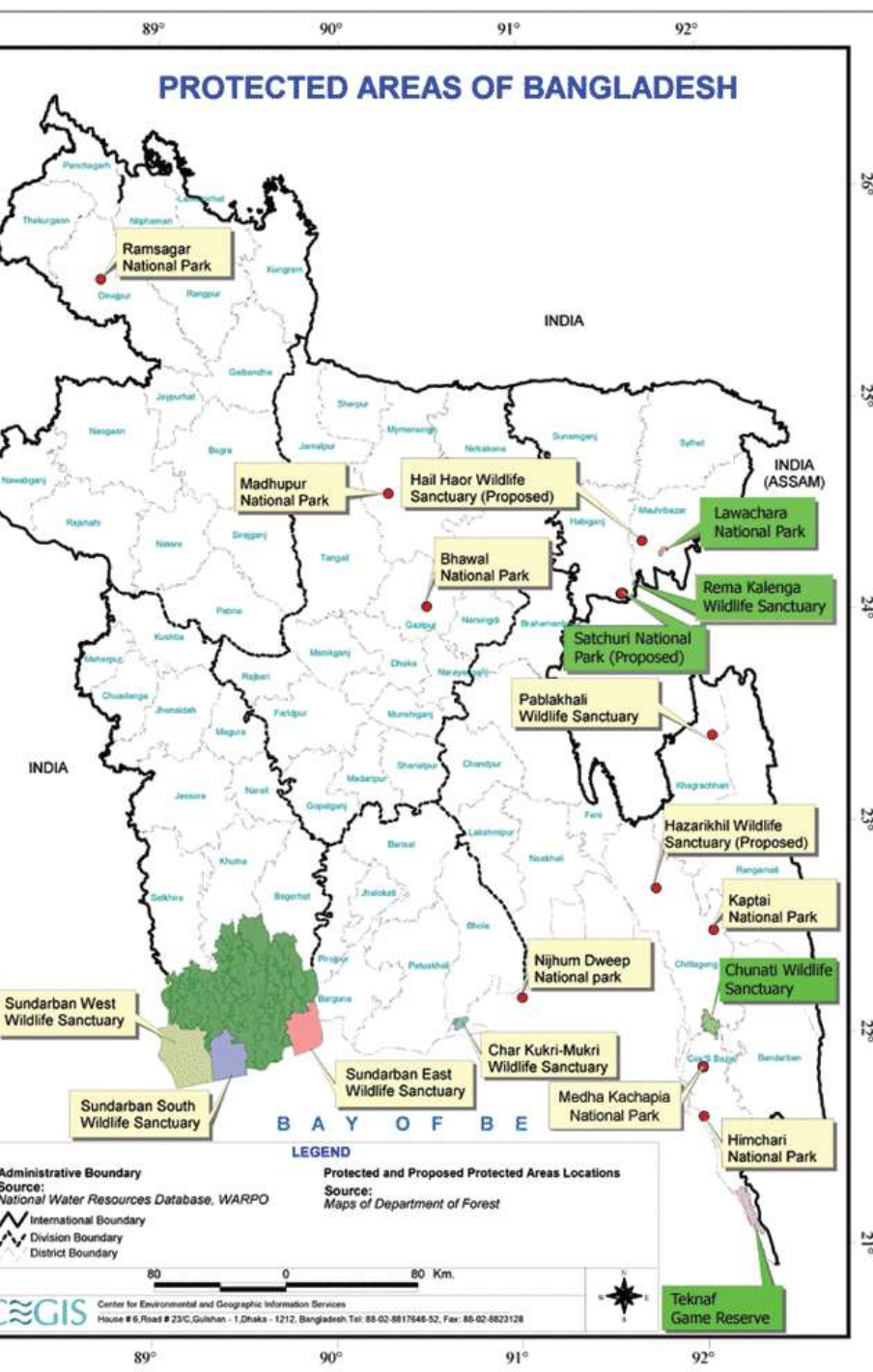
A medicinal plant is any plant which, in one or more of its organ, contains substance that can be used for medical purpose or which is a pioneer of useful drugs."

Medicinal plants constitute an important natural wealth of a country. They play a **significant role in providing primary health care services to rural people**. They serve as therapeutic agents as well as important raw materials for the **manufacture of traditional and modern medicine**.

Substantial amount of **foreign exchange** can be earned by exporting medicinal plants to other countries. In this way indigenous medicinal plants play a significant role in the economy of a country.

Medicinal plants and their use

| Name | Parts used | Name of diseases |
|--------------|--------------|--|
| Amloki | Fruits | Blood dysentery, vomiting, loss of appetite |
| Arjun | Bark | Burning, dysentery, hypertension |
| Bashok | Leaves | Cough, asthma |
| Bel | Fruits | Gastric |
| Bohera | Fruits | Dysentery, asthma, cough |
| Horitoki | Fruits | Asthma, heart disease |
| Mehendi | Leaves | Skin disease, headache, jaundice |
| Nim | Bark, leaves | Fever, skin disease, diarrhea, insect biting |
| Pathor kuchi | Whole plant | Cough, flatulence |
| Tentul | Fruits | Loss of appetite |
| Thankuni | Whole plants | Dysentery |
| Tulsi | Leaves, root | Cough, cold |
| Amra | Bark, leaves | Dysentery, pain at joints |



Protected area management in Bangladesh to ensure sustainable forest management

Protected Area

Definition of Protected Area Forest:

A **Protected Area Forest** refers to a designated portion of forested land that is legally protected and managed primarily for the conservation of biodiversity, ecosystems, and natural resources.

These areas are established to safeguard wildlife habitats, prevent deforestation, and maintain ecological balance. Human activities such as logging, hunting, or development are typically restricted or regulated within these areas.

Key Features:

- Legally recognized and managed by national or local authorities.
- Aimed at conservation of flora, fauna, and ecological processes.
- Includes national parks, wildlife sanctuaries, nature reserves, and biosphere reserves.
- May allow limited and sustainable use by local communities under specific guidelines.

Example:

In Bangladesh, **Sundarbans Reserve Forest**, **Lawachara National Park**, and **Rema-Kalenga Wildlife Sanctuary** are examples of protected area forests.

Protected area management to conserve Biodiversity

Human beings are dependent on a variety of living resources for their survival.

Biodiversity is vital for many reasons - for example, to sustain the production of food or to conserve the ecological foundations needed to sustain people's livelihoods.

Over the past few decades, the **loss of and threats to biodiversity** have become issues of **global concern**.

Protected area management to conserve Biodiversity....

Protected area management emerged as an important strategy to conserve biodiversity in a sustainable way.

Globally, the number of PAs has increased significantly over the last few decades in recognition of their importance for conservation.

At present, there are more than 100,000 protected area sites worldwide, covering nearly 12% of the world's land surface.

Importance and number of species

Bangladesh is part of the Indo-Burma region, which is **one of the ten global hot-spot areas for biodiversity** with 7,000 **endemic plant species**.

Flora Species:

- an estimated **5,700 species** of angiosperms alone, including 68 woody species, 130 species of fibre yielding plants, **500 medicinal plant species**, 29 orchid species, three species of gymnosperms, and 1,700 pteridophytes.
- Some **2,260 plant species** have been reported from the hilly region of Chittagong alone.

Importance and number of species...

■ Faunal species

Bangladesh also possesses **rich faunal diversity** and has approximately 113 species of mammals, more than 628 species of birds, 126 species of reptiles, 22 species of amphibians, **708 species of marine and freshwater fish**, 2,493 species of insects, 19 species of mites, and 4 species of echinoderms.

Biodiversity Situation & PA Approach

The biodiversity situation of Bangladesh has worsened day by day mainly because of its high **population pressure and extreme poverty**.

However, the establishment of PAs for conserving biodiversity in the country is relatively recent. In fact, majority of the PAs of the country are relatively young and being declared very recently.

3 type of protected areas were defined under the *Bangladesh Wildlife Preservation Act, 1974*, with the objective of conserving biodiversity and the natural environment within various forest type. The first PAs had been established in the 1960s and 1970s; a second group of PAs were declared in between 1980 and 1986, and a third group since 2000.

Types of PAs

The three different types of protected area:

- A. *National Park:*** a comparatively large area of natural beauty to which the members of the public have access for recreation, education and research, and in which the wildlife is protected.
- B. *Wildlife Sanctuary:*** an area maintained as an undisturbed breeding ground for wild fauna and where the habitat is protected for the continued well-being of the resident or migratory fauna.
- C. *Game Reserve:*** normally comprises a relatively isolated area meant for protection of wildlife in general and to increase the population of specified species (**Pabla Khali Wildlife Sanctuary, Rangamati**).

Usefulness of Bangladesh Protected Areas for Biodiversity Conservation

- The effectiveness of Bangladesh's PA is limited because they are portions of reserved forests which have, in most cases, only been declared after being degraded heavily by activities such as illegal logging, land clearing, burning, and poaching. Many of the country's mammals, birds and reptiles have already been lost, due lack of proper attention.
- IUCN listed 40 mammalian species, 41 avian species, 58 reptilian species and 8 species of amphibians are under various degrees of threat in Bangladesh. Although data regarding the country's threatened flora is not completed, it has been assumed that 10% of it is already extinct due to uncontrolled over-exploitation.

Challenges.....

- ***Other pressures and issues:*** Fuel wood collection for domestic cooking is a major resource pressure impacting on sound PA management. **Sawmills and brickfields** located in and around PAs indirectly threaten the existence of PAs by encouraging local people in illegal logging activities.

Forest management

Two different types of forest management:

- Past Forest Management
- Present Forest Management

Past Forest Management

Forests used to managed primarily for **revenue collection** under the control of Revenue Department. Only valuable trees were extracted from the forest to get more revenue. **The Forest activities used to operate by annually developed forest management plan.**

Forest management....

Present Forest Management

- The present forest management is **almost totally different from the past** one in respect of its objectives and philosophy. **Present forest management objectives** are not only to produce timber but also to provide clean air, water, healthy habitat for wildlife and to act as a **major source of biodiversity and nature-based tourism**.
- The present philosophy of forest management is to **involve people in the management** and to **create an environment** so that people can feel that they have also some stakes on trees growing on the forestland and to improve living standard of the people residing in the vicinity of the forests.