GEOLOGY AND PHYSIOGRAPHY OF BANGLADESH

General Statistics of Bangladesh

Country Profile

Bangladesh is sub-tropical riverine country with monsoon climate.

Location: Between 20° and 26° north latitude & 88° and 93° east longitude.

Total Area:

Total: 147,570 square kilometers (56,977 square miles)

Land: 133,910 sq km

Water: 10,090 sq km


NEPAL
Brahmaputra
Rangpur
INDIA
Jamuna
Mymensingh
Rājshāhi
Ganges
Padma
DHAKA
Nārāyangañj
Chāndpur
INDIA
Khulna
Barisāl
Chittagong
Chālna Port
Mouths of the Ganges
Cox's Bāzār
BURMA
0 50 100 km
0 50 100 mi
Bay of Bengal

Country Profile……

Land boundaries:

Total*:* 4,246 km
border countries: Burma 193 km, India 4,053 km

Boundary: North, West & East – India, Southeast – Myanmar, South – Bay of Bengal

Population: 163 million; density 1125 persons /sq.km.(highest in the world).

About 30% of the population live in urban areas while the rest 70% live in villages.

Population growth rate is 1.01%.

Country Profile……

- Main River : The Ganges-Padma, the Brahmaputra-Jamuna & the Meghna
- Average temperature : 7 - 22 ^{0}C in winter & 24 - 39 ^{0}C in summer
- Average Rainfall : Annually 1429 to 4338 mm
- Main Export : Jute, Tea, Garments, Frozen Fish, etc.

Coastline: 580 km

Maritime claims:

Continental shelf*:* up to the outer limits of the continental margin;
Exclusive economic zone*:* 200 nmi (370.4 km)
T*erritorial sea:* 12 nmi (22.2 km)

Geology & Physiographic Settings of Bangladesh

The Geology of Bangladesh

- The **geology** and **hydrology** of Bangladesh is very complicated due to the nature of its underground structures.
- Multiple layers of Himalayan sediments deposited over tens of millions of years by shifting rivers, tides, and floods.
- The sediment layer is up to 20 kilometres thick near the Bay of Bengal.

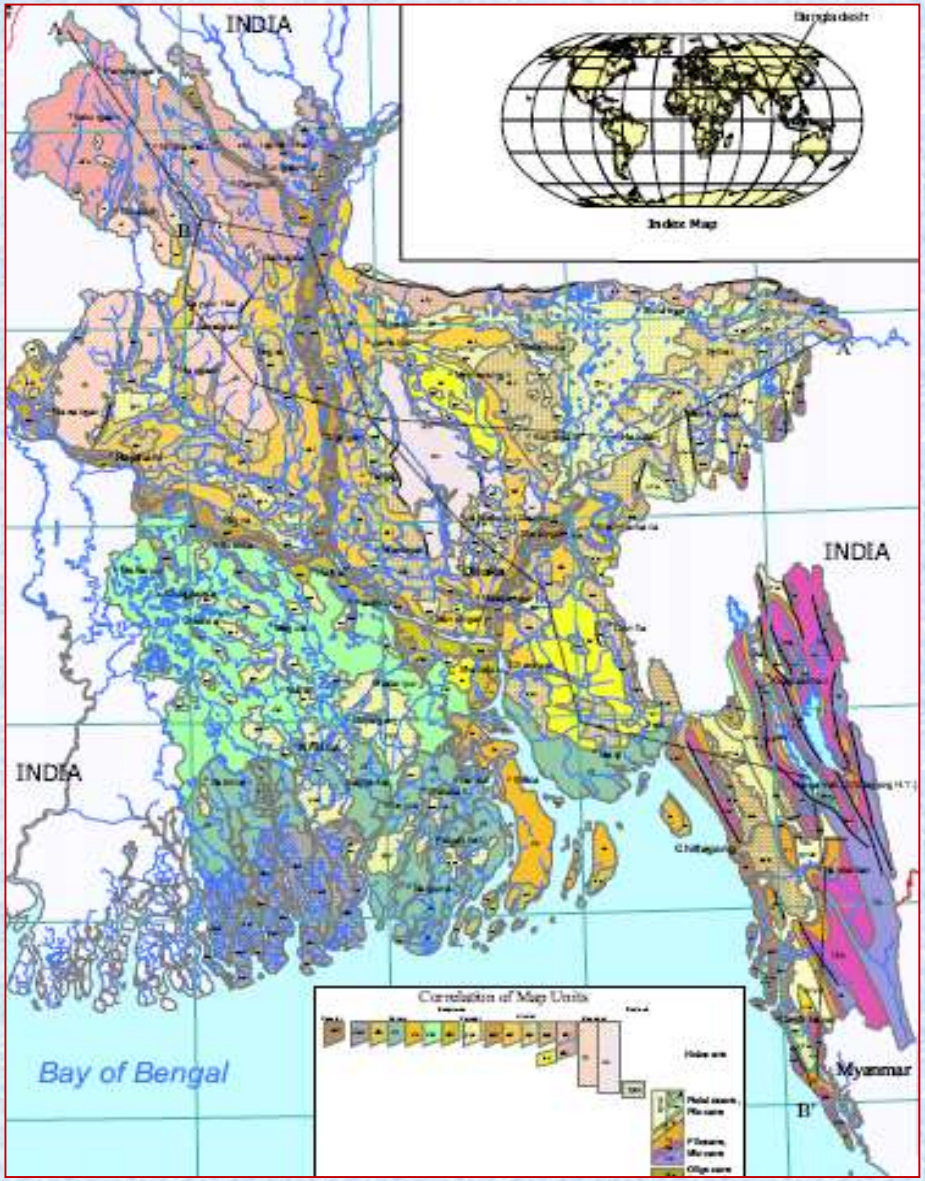
The Geology of Bangladesh

Most of the areas of Bangladesh lies within the broad delta formed by the Ganges and Brahmaputra rivers. Lands are exceedingly flat, low-lying, and subject to annual flooding. The fertile alluvial soil is deposited by the floodwaters.

The only significant area of hilly terrain, constituting less than one-tenth of the nation's territory, is the Chittagong Hill Tracts in the narrow southeastern part of the country. Small, scattered hills lie along or near the eastern and northern borders with India.

The eroded remnants of two old alluvial terraces-the Madhupur Tract and The Barind Tract attain elevations of about 30 m. The rest of the area is floodplains.

THE GEOLOGY OF BANGLADESH



Geographical Setting

The major natural assets of Bangladesh are:

- its access to open ocean,
- the tropical climate,
- the abundance of good soils,
- the seasonal abundance of rainfall, and river flow.

Physiographic Features of Bangladesh

Introduction

- The word Physiography is the combination of physio and graphy where physio means earth and graphy refers to discussion. So Physiography is the study of earth. It is very much essential to know the physical characteristics of earth where we live in.

- Physiography is the terrain condition of a tract of land. In other word physiography reveals the condition of surface of land. It deals about the total feature of earth crust. *The physiographic condition may vary from place to place depending on terrain texture, rock type, and geologic structure and formation, etc.*

Introduction……

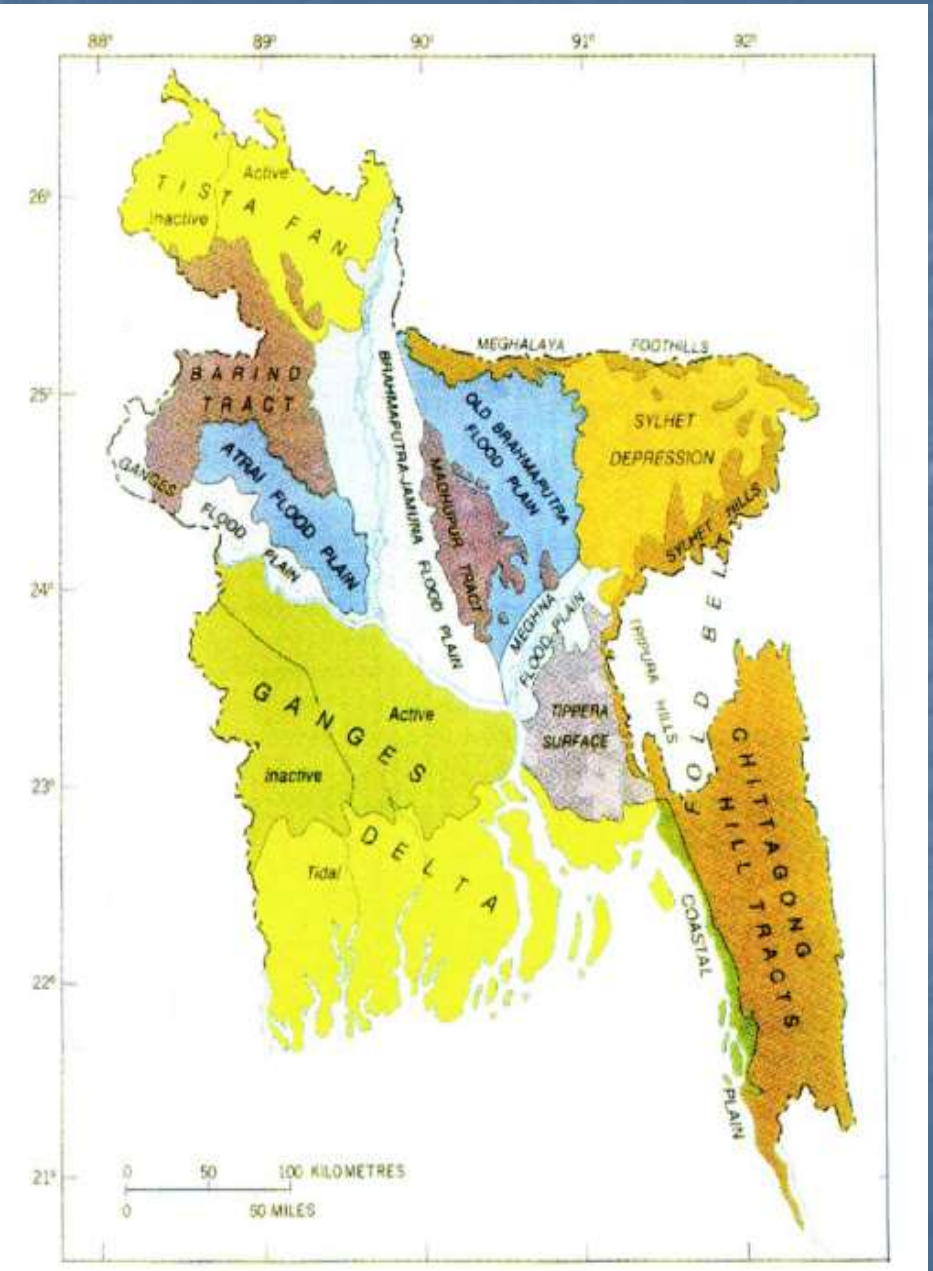
- Spate (1954) was the first author to delineate physiographic regions in Bangladesh, he outlined five physiographic regions in the Bengal basin, three of which fell in Bangladesh.
- Johnson (1957) took the regions outlined by Spate (1954) and further redefined five physiographic regions in Bangladesh, with twelve sub divisions. Johnson's physiographic map contained several errors (Rashid, 1991), in particular in the exact delineation of the Barind Tract.
- Rashid (1991) refined the previous definitions based on topographic features, drainage patterns, soil associations, morphologies and land use. Rashid (1991) identified 24 physiographic regions in Bangladesh.

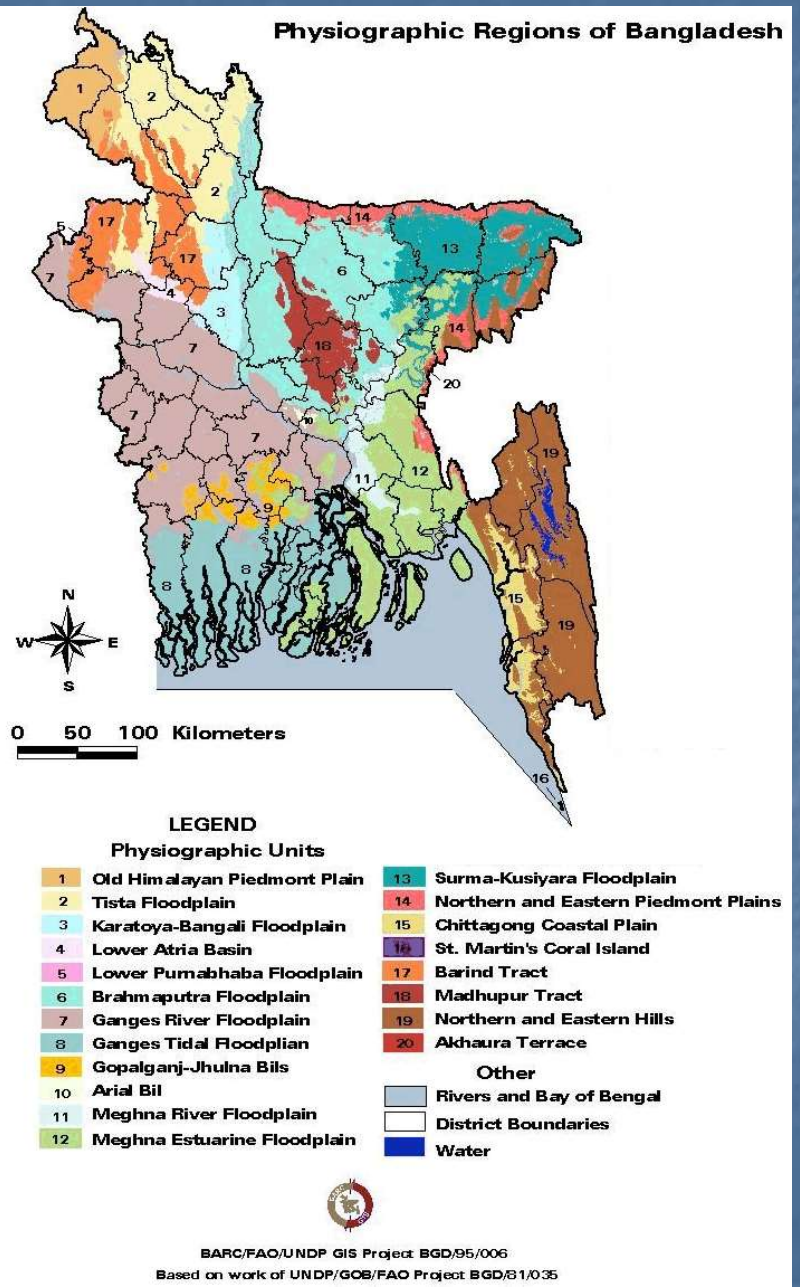
Physiographic Divisions of Bangladesh

On the basis of its **physical characteristics**, Bangladesh can be divided into seven Physiographic divisions. These are:

- 1. Tertiary Hills
- 2. Pleistocene Terraces
- 3. Piedmont Alluvial Plains
- 4. Coastal Plain
- 5. Tidal Plain
- 6. Deltaic Plain and
- 7. Flood Plain

Physiographic division of Bangladesh





Tertiary Hills

- This part of Bangladesh is different from the rest of the country. This area contains with twisted hills and valleys, spring lakes mountainous ridges and plenty of forests.

Pleistocene Terrace

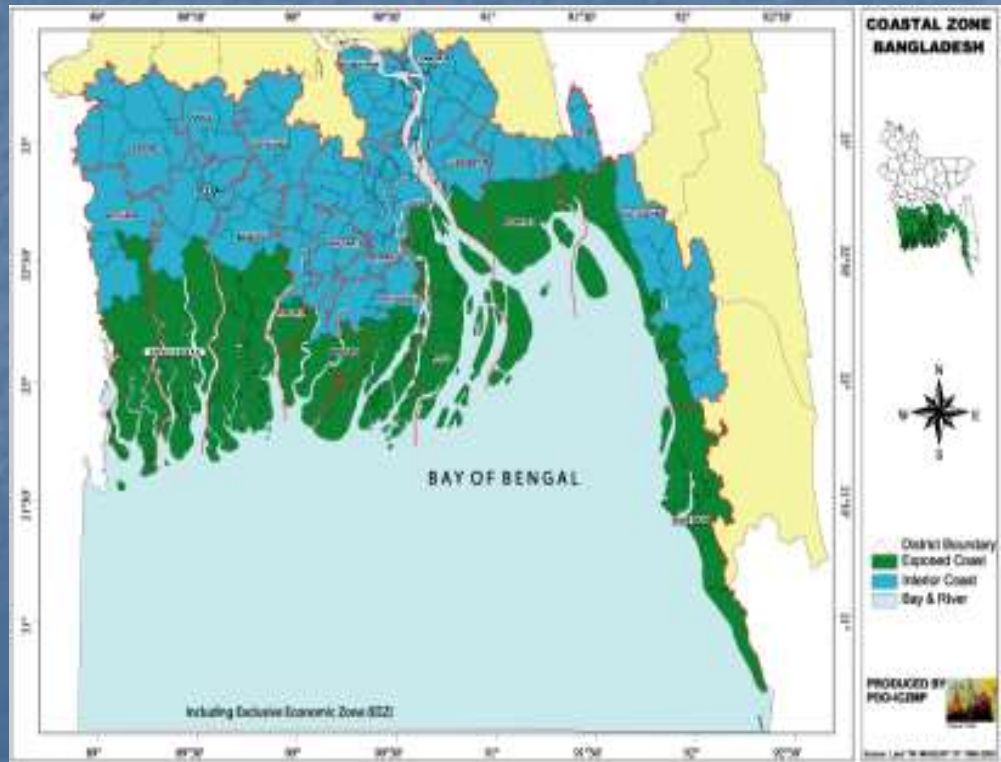
- It includes the Barind uplands. The Rajshahi, Modhupur and Lalmai uplands of Comilla are the best example of Pleistocene terrace areas. The main characteristics of this area are comparatively high elevation and reddish lateric soils.

Piedmont Alluvial Plains

- This type of soil is specially found at the foot of Himalayan Ranges. The alluvial deposit is mostly sandy silt. A small stretches are seen in the northern parts of Dinajpur, Sherpur and Netrokona districts.

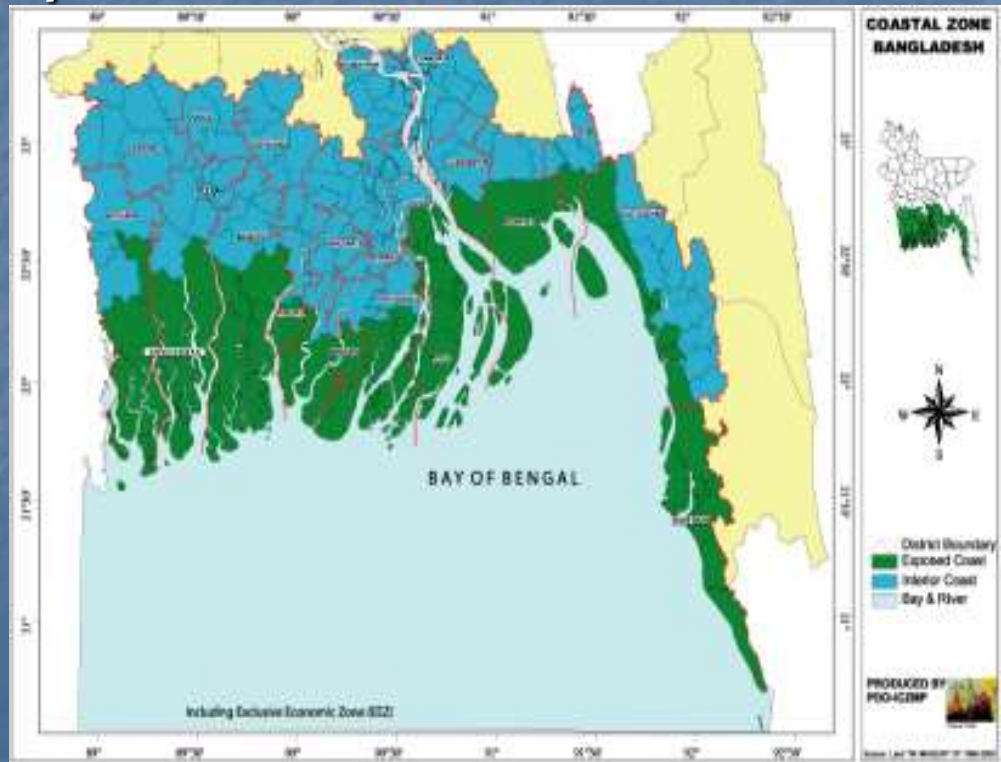
Coastal Plain

This region is found in the coastal belt area of our country i.e. southern part and mouth of Bay of Bengal. This plain is composed of saline clays and most of it is affected by tides. Due to salinity of soil it is not suitable to crop cultivation.



Tidal Plain

The southern part of Satkhira, Khulna, Bagarhat, Jhalokhathi, Potuakhali and Borguna districts are within the tidal plain. The main characteristics of these land area is clay-to-clay loam, criss crossed by numerous streams and channels. The most forest area of our country remains here.



Deltaic Plain

A delta is land created by a river that deposits soil. The term "delta" usually implies the triangular shape of land at the opening of a river into a sea or lake. However a delta can be formed by flooding of large rivers.

This area contains from the southern part of the Rajshahi, Natore and Pabna to the boundary of tidal plain from Ganga or Padma. These land area are also very fertile due to silt of river.

Flood Plain

- Rest of Bangladesh that we discussed above, is the vast flood plain. Actually these types of soil are found all over the Bangladesh, as Bangladesh is a land of rivers. These types of land are formed because of flood and contain high fertility to grow crops.