

# Agriculture and river system



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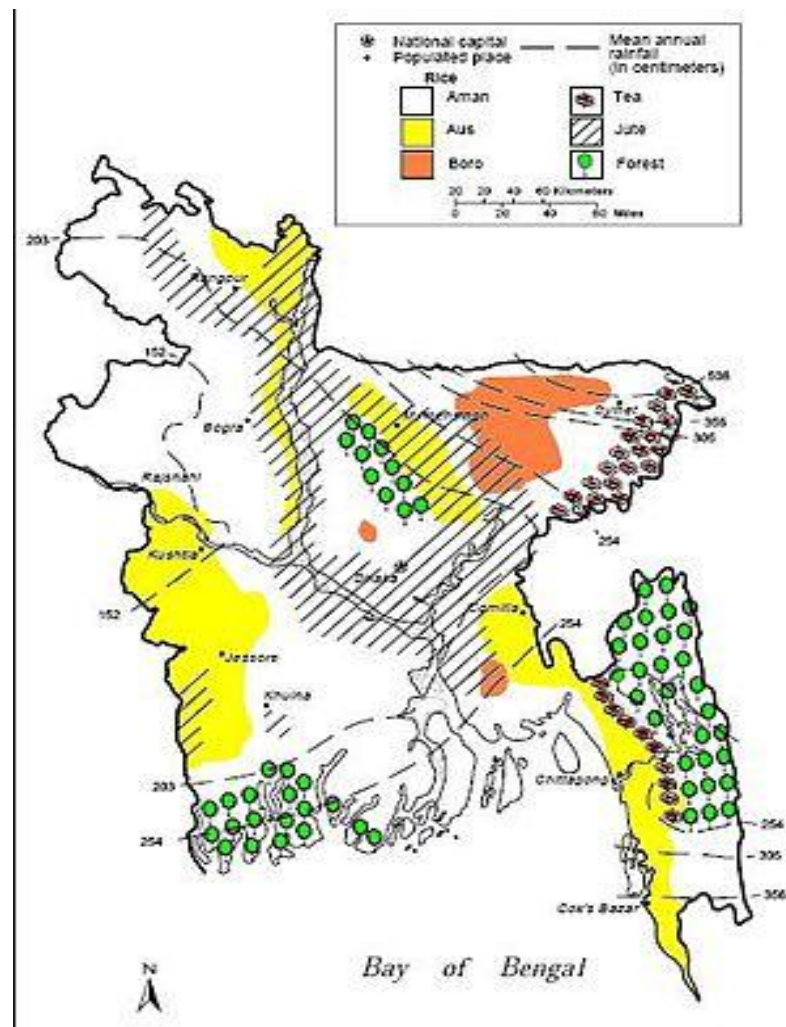
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# **Agriculture and river system**

- 1. Pattern of agriculture**
- 2. Types of forest in Bangladesh**
- 3. River system**

# 1. Pattern of agriculture

- **Agriculture** means practice of producing crops. The other sub-sectors of agriculture are livestock, poultry, fish and fisheries, forest and forestry .
- Most of the people of Bangladesh earn their livelihood by farming. Her economy mainly depends on agriculture. Many kinds of crops grow in plenty in her fertile land. So, agriculture is the backbone of the economy of Bangladesh.

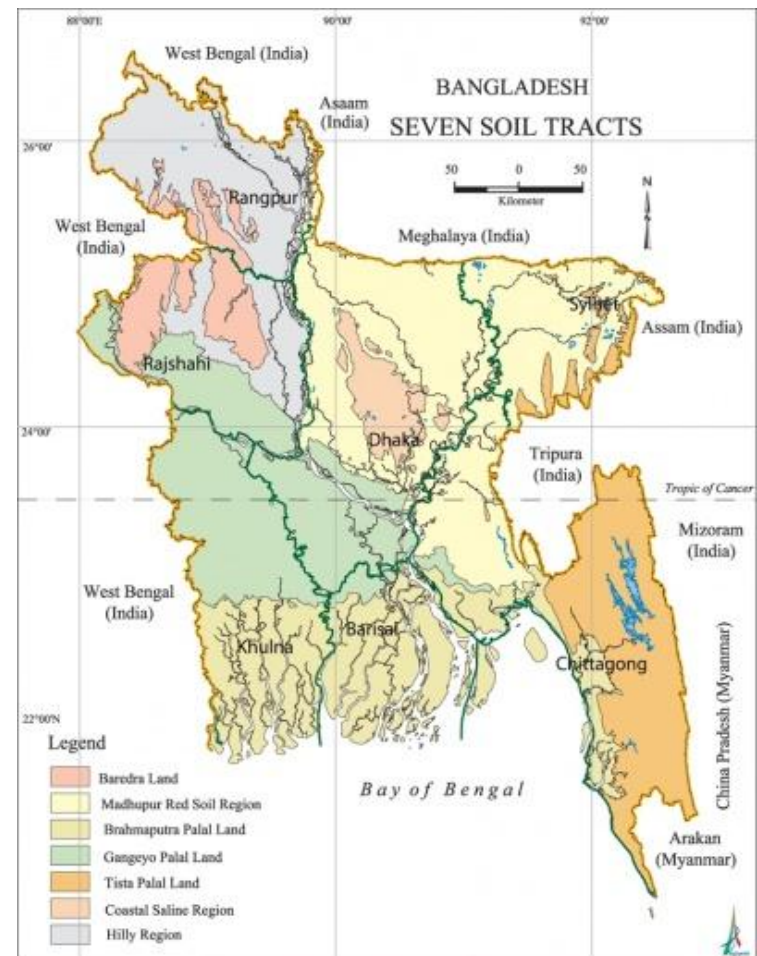


- Bangladesh has a primarily agrarian economy. Agriculture is the single largest producing sector of the economy since it comprises about 18.6% (data released on November, 2010) of the country's GDP and employs around 45% of the total labor force. The performance of this sector has an overwhelming impact on major macroeconomic objectives like employment generation, poverty alleviation, human resources development and food security.
- The 3 main crops: rice, jute, and tea—have dominated agricultural exports for decades, although the rice is grown almost entirely for domestic consumption, while jute and tea are the main export earners. In addition to these products, Bangladeshi farmers produce sugarcane, tobacco, cotton, and various fruits and vegetables (sweet potatoes, bananas, pineapples, etc.) for the domestic market.

- **Agricultural land:** The total land area of Bangladesh is about 14.3 million hactor, of which about 59.8% is available for cultivation. Depending on the flooding depth, the land is categorized as highland (20%), medium highland (39%), medium lowland (15%), lowland (8%) and very lowland (2%). Based on physical environment which are relevant to land use, the land is divided into 30 agroecological zones and 88 sub-regions.



- **Climate and soil:** Bangladesh is a tropical country. Her climate and soil are most suitable for the cultivation of several kinds of crops. Most of the crops in Bangladesh grow in plain and fertile lands. A large number of rivers flow over Bangladesh. These rivers carry the silt. This silt makes our land fertile and helps it grows many crops.





- **Various kinds of agricultural products:** Bangladesh is mainly an agricultural country. About 90% of her population depend wholly or partially on agriculture. The produces various kinds of agricultural products. These productions can chiefly be divided into two classes
  - cash crops
  - food crops.



- **Our cash crops:** There are several kinds of cash crops in our agricultural products. By exporting them, we can earn a great amount of foreign exchange every year. They are described in the following.
- **(a) Jute:** Jute grows in Bangladesh in plenty. It is our chief cash-crop. It has a great demand in the world market. It earns a lot of foreign exchange. Jute, often called the "golden fibre" of Bengal, is the main export-earner for Bangladeshi agriculture, as Bangladesh remains the world's second-largest producer of jute (after India) and the world's largest exporter of fiber.
  - Global awareness about environment friendly jute fiber as a natural fiber is increasing to protect the environment. The Government is enacted 'Compulsory Use of Jute Fiber Packaging Act 2010' and 'Rules for Compulsory Use of Jute Fiber Packaging 2013'. According to this rule, jute fiber packaging is compulsory for 17 items. As a result demand of jute fiber is increasing in home and abroad.



- **(C)Tea:** Tea is one of the most dynamic agro-based, labour intensive, export oriented industries of Bangladesh. It plays a vital role in the national economy in both export earnings as well as in employment generation. Plantation and production of processed tea are the two main activities in the private sector. In the public sector, green leaf production was promoted through development projects implemented by the Bangladesh Tea Board.
- With the introduction of high yielding varieties, quality planting materials, timely application of production inputs and installation of modern machinery, tea has undergone further improvement and enabled Bangladesh to compete more effectively with other exporting countries. Increased production is expected to come from higher yields and by reducing tea vacancies now existing in the gardens.

- **(D)Tobacco:** Tobacco is one of the important cash crops of the country. The crop grows well in sandy, well aerated, well drained soils and cool climate. Hence, it is grown as a Rabi crop and most of the area is concentrated in the greater districts of Kushtia and Rangpur.



টাক্সাইডে মদুনের পাত্রে থাকা চাষাবদ্ধে নিপাঙ্কনযোগ্য কামোক চাষ করা হয়েছে। ছবিটি কলিকাতার উপকূলীয় জেলাগুলির একটি থেকে সংগ্রহিত করা হয়েছে।

- **(E)Cotton:** Cotton played a very important role in improving the socio-economic conditions of the farmers during the previous Plan period. The production has gone up from 45,800 bales in 1983/84 to about 1,00,000 bales in 1996/97. The yield of seed cotton per hectare has reached a reasonably high level; yet the yield of cotton in the country is low compared to world standards.



- **Sugar cane:** Sugar is the country's most important agro-industry and sugar cane is one of the important cash crops. Sugar cane is grown as a 12-15 month crop in a two year rotation with Aus rice crop during the monsoon season followed in the dry months by oilseeds, wheat or vegetables. Sugar cane yields in the country are low by world standards and the quality is poor.





- **Our food —crops:** There are many kinds of food crops in Bangladesh. Rice, wheat, oilseeds, sugarcane, potato etc. are important food crops of her. They maintain our food habit.
- **(a) Rice:** The chief food crop of Bangladesh is rice. It is our main food. It is mainly of three kinds- Ans, Aman, and Boro. It grows' in plenty all over Bangladesh. Rice is the staple food in the everyday diet of Bangladeshis. The production of rice, which can be harvested 2 or even 3 times a year.
  - **(c) Wheat:** Wheat is our third food-crop. It grows in winter. It is produced in Bangladesh. The soils of Rajshahi, Pabna and some other districts are famous for the cultivation of wheat.
  - **(d) Other:** Other valuable food crops are betel-nut, brinjal, onion, radish pumpkin etc. They grow all over Bangladesh.



- **Fishing** is another important activity in the country. Bangladesh is blessed with vast water resources with a wide range of aquatic diversity. Bangladesh mainly exports its shrimp to the international market.
- In FY2016-17 fishing sector contributes 3.61 percent to the GDP and 24.43 percent to the country's total agricultural products. A considerable part of the country's export earning comes from this sector.



- **Livestock** The contribution of the animal farming subsector to GDP is 1.60 percent in FY2016-17. Though the share of the animal farming subsector in GDP is small, it makes immense contribution towards meeting the requirements of daily essential animal protein for human consumption, reduction of poverty, cultivation of land, production and exports of leather and leather goods.



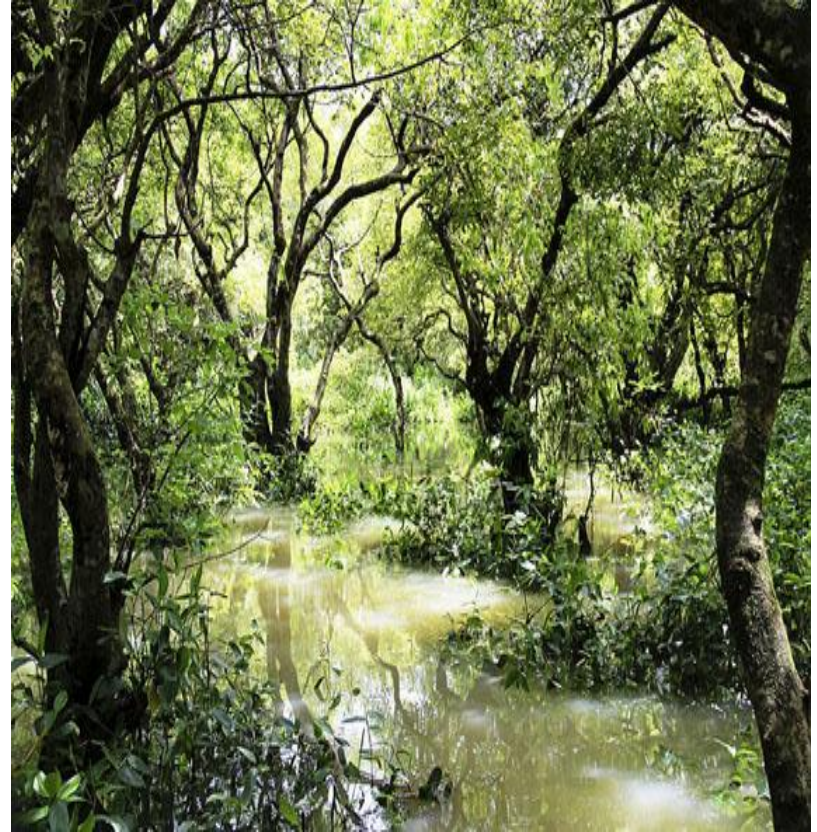
- A number of initiatives have been taken for livestock development. The most important ones include: breed up gradation through artificial insemination using superior quality frozen and liquid semen, production and distribution of vaccine for poultry and livestock, supply of duckling and chicks at a cheaper price, increased production of semen, artificial fetus transfer technology, prevention and control of anthrax, foot and mouth diseases and avian influenza.
- Livestock sector has been earning foreign currency by exporting meat and livestock products to USA, UAE, China, Kuwait, Canada, Japan and Maldives.

- **Cause of backwardness in agriculture:** the soil of Bangladesh is very fertile. It seems strange to think why the agricultural output of this land is low. So the peasants hardly procure two meals a day. They are ill-clad and ill-fed. They fall easy victims to disease and cannot give proper medical aid to themselves and their children. They are ignorant of the scientific methods of cultivation and farming.
- **Way to improve our agriculture:** it is the first and foremost duty to impart agricultural education to our peasants. Night schools should be established in every village for adult education. They should be taught to use scientific methods of cultivation. Sub-divisions of land should be stopped by making law. The land should be ploughed by tractors.



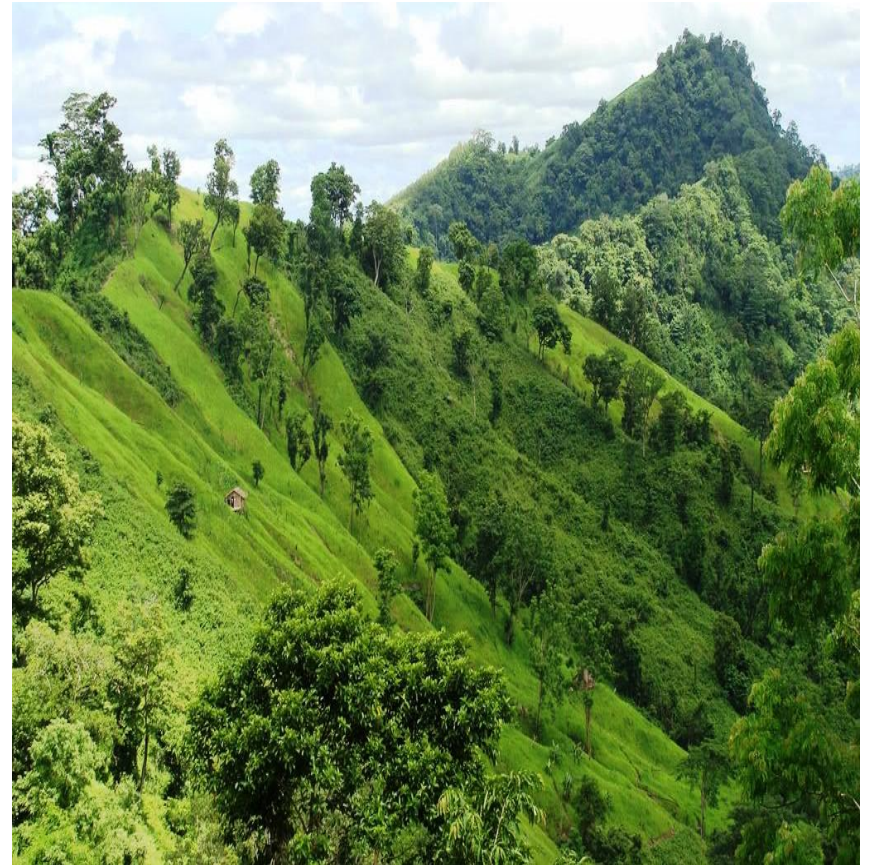
## 2.Types of forest in Bangladesh

- The total area of forest land is 2.53 million hectares representing about 17.5% of the country's area.
- Bangladesh having 11.2 percent of forest according to the data of Asian Development Bank, 2016.
- Wood is the main fuel for cooking and other domestic requirements. It is not surprising that population pressure has had an adverse effect on the indigenous forests.





- The largest areas of forest are in the Chittagong Hills and the Sundarbans.
- The evergreen and deciduous forests of the Chittagong Hills cover more than 4,600 square kilometres (1,800 sq mi) and are the source of teak for heavy construction and boat building, as well as other forest products. Domesticated elephants are still used to haul logs.



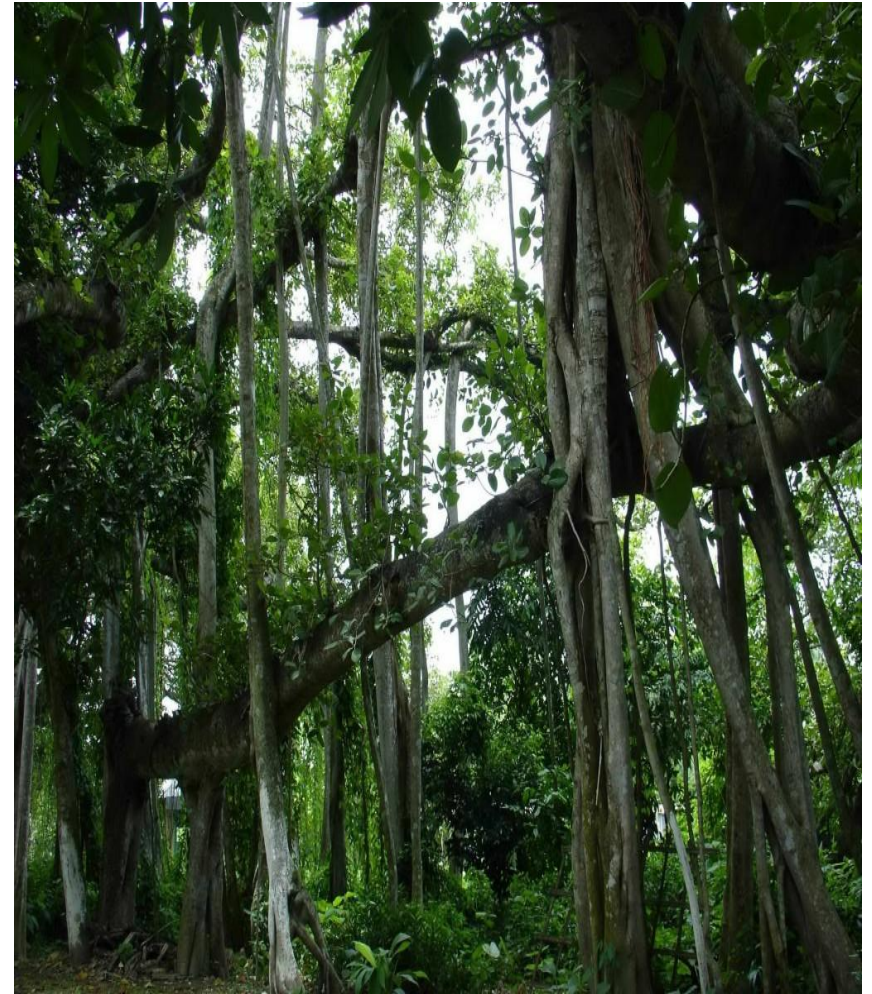
- ***Forest type:*** Based on their ecological characters, the forests of Bangladesh can be divided into tropical wet evergreen, tropical semi-evergreen, tropical moist deciduous, tidal, and planted forests.
- 1. **Tropical wet evergreen forest:** Evergreen plants dominate with rich biodiversity; few semi-evergreen and deciduous species also occur but do not change or alter the evergreen nature of the forests. They occur in hilly areas of Chittagong, Chittagong Hill Tracts (CHT), Cox's Bazar in the SE, and Maulvi Bazar in the NE.
- About 700 species of flowering plants grow in this type of forest. Trees like kaligarjan, dhaligarjan, civit, dhup, kamdeb, raktan, narkeli, tali, chundul, dhaki jam are the common evergreen species which constitute the uppermost canopy.

**2. Tropical semi-evergreen forest:** Generally evergreen in character but deciduous plants also dominate. These forests range in the hilly regions of Sylhet through Chittagong, the Chittagong Hill Tracts, Cox's Bazar, and also in some parts of Dinajpur district in the NW. Most of them are subjected to Jhum(slash and burn) cultivation.





- Over 800 species of flowering plants have been recorded in these forests. They have more undergrowth than evergreen forests. Top canopy trees reach a height of 25-57 m. In the valleys and moist slopes chapalish, telsur, chundul and narkeli constitute the top canopy;



**3. Tropical moist deciduous forest:** Commonly known as sal forest, sal (*Shorea robusta*) being the dominant species. These forests are now distributed in Dhaka, Mymensingh, Dinajpur and Comilla regions. They constitute two distinct belts (covering about 107,000 ha of land); the larger one falls between the Bhramaputra and the Jamuna rivers with a length of about 80 km and a width of 7-20 km. This part is known as Madhupur Garh.

- The other smaller belt is situated at Sherpur district and lies along the foothills of the Garo Hills of India, having a length of about 60 km and width of 1.5-10 km. There are some smaller remnant patches of forest areas in Rangpur, Dinajpur, Thakurgaon, and Naogaon districts (covering about 14,000 ha) with some remainings in Shalvan Vihara, Mainamati and Rajeshpur in Comilla (about 200 ha).



**4. Tidal forest:** The most productive forest type in Bangladesh, they are situated in Khulna, Patuakhali, Noakhali and Chittagong regions along the coastal region, and constitute about 520,000 ha.



- The grounds of these forests are flooded every time at tide with seawater. The plants have pneumatophores, with viviparous germination, and are evergreen in nature. Other than sundari, passur, gewa, keora, kankra, baen, dhundul, amoor, and dakur grow gregariously. Turbidity and salinity of water in the coastal zones regulate the frequency and constituent feature of the species.

- **A sixth category** of forest which is fast emerging are the plantations on non-forest public land, such as road side, railway embankment, and canal banks.
- This marginal land plantations in one way are substituting for the decreasing village forests, and are adding a new dimension to fallow land utilization.
- Tea garden is another category which needs mention. A good quantity of tree resources are available within the tea garden. The tree cover areas of tea gardens are fast depleting.



- **Forest resource:** In terms of forest land, the Chittagong Hill Tracts forest division on the southeastern border of the country contributes about 47%, followed by the Sundarbans and Patuakhali coastal divisions, about 27%. The northwestern region, including Dinajpur, Bogra, Rajshahi and Rangpur districts, has less than one percent state forestland. The western region, ie Jessore, Kushtia, Faridpur and Barisal, has slightly more than one percent. And yet after the agriculture sector, forestry is one of the major economic activities, contributing to about 3% GDP of the country.

- **Forest product:** various uses of the forest products mention may be made about the following;
  1. **House construction and building materials.**
  2. **Furniture and fixtures**
  3. **Transport equipment**





**4. Agricultural implements**

**5. Wood-based panel products**

**6. Fuel and firewood**

**7. Rubber products**

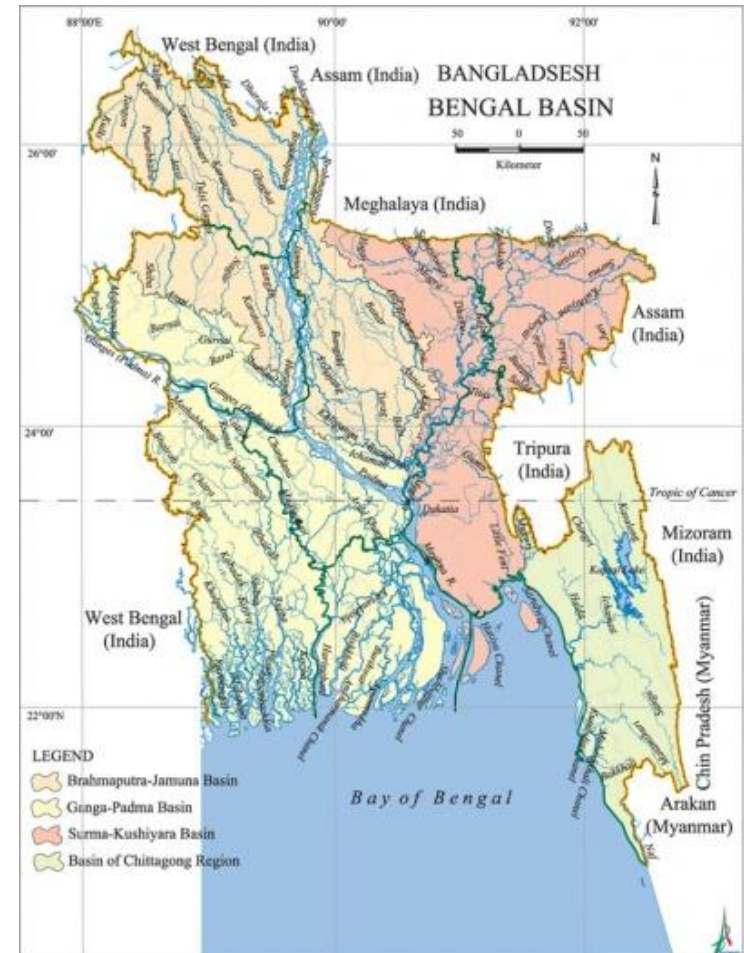
**8. Other miscellaneous wood and forest products:** Among miscellaneous wood products, match manufacturing occupies a prominent place. Other major items include pencil, slate and scale production, toy manufacturing, electrical and telephone poles, textile and jute mill spares and accessories, etc



**9. Non-timber forest product:** Many small industries, private and government handicrafts and cottage industries are based on non-timber forest materials. Many of the products are exported to different countries. A good number of craftsmen are employed in these industries. Some of the most important non-timber plants and plant-products include bamboo (for making houses, furniture and souvenir items), rattan or cane (for making furniture and luxury souvenir items), sungrass (for house roofing/thatching), pati pata and hogla (for floor mats), nipa palm or golpata (for thatching and roofing), forest honey (mainly from the Sundarbans), Gewa (raw materials of Khulna Paper Mill for producing newsprint), and medicinal plants (eg Amlaki, Bohera, Horitaki, Swarpagandha, Kurchi, Arjun, Basok, Swatamuli, Akanda, Dumur, Ulat-chandal, Anantamul, Tulshi, Nisindha etc)

### 3. River system

- **River and Drainage System** the rivers of Bangladesh are very extensive and distinguish both the physiography of the country and the life of the people. Bangladesh is called a land of rivers as it has about 700 rivers including tributaries.



- The rivers are not, however, evenly distributed. For instance, they increase in numbers and size from the northwest of the northern region to the southeast of the southern region. The total length of all rivers is about 24,140 km. In terms of catchment's size, river length and volume of discharge, some of these rivers are amongst the largest on the earth.





- Usually the rivers flow south and serve as the main source of water for irrigation and as the principal arteries of commercial transportation. The rivers also provide sweet water fish, an important source of protein. A large segment of population is thus engaged in the fishing sector.



- Thus this great river system is the country's principal resource as well as its greatest hazard. The system can be divided into four major networks:
  - (1) BRAHMAPUTRA-JAMUNA RIVER SYSTEM
  - (2) GANGES-PADMA RIVER SYSTEM
  - (3) SURMA-MEGHNA RIVER SYSTEM
  - (4) CHITTAGONG REGION RIVER SYSTEM

**1. Brahmaputra-Jamuna system:** the Brahmaputra-Jamuna river is about 280 km long and extends from northern Bangladesh to its confluence with the Ganges.

- The river originates in Tibet as the Yarlung Zangbo Jiang and passes through Arunachal Pradesh of India as Brahmaputra (son of Brahma)





**2. The Ganges-Padma system'** is part of the greater Ganges system. The Ganges has a total length of about 2,600 km.

- Within Bangladesh, Ganges is divided into two sections - first, the Ganges, 258 km long, starting from the western border with India to its confluence with Jamuna at Goalandaghat, some 72 km west of Dhaka. The second is the Padma, 126 km long, running from Goalandaghat confluence to Chandpur where it joins the Meghna.





**3. The Surma-Meghna system'** the Meghna is the longest (669 km) river in Bangladesh. It drains one of the heaviest rainfall areas (eg, about 1,000 cm at Cherapunji in Meghalaya) of the world.

- The river originates in the hills of Shillong and Meghalaya of India. The main source is the barak river, which has a considerable catchment area in the ridge and valley terrain of the Naga-Manipur hills bordering Myanmar. The Barak-Meghna has a length of 950 km of which 340 km lie within Bangladesh.

## 4. The Chittagong Region

**system'**: the rivers of Chittagong and CHITTAGONG HILL TRACTS are not connected to the other river systems of the country. The main river of this region is karnafuli. It flows through the region of Chittagong and the Chittagong Hills. It cuts across the hills and runs rapidly downhill to the west and southwest and finally to the Bay of Bengal. CHITTAGONG PORT is located on the bank of Karnafuli. The river has been dammed upstream at Kaptai to create a water reservoir for hydroelectric power generation. Other important rivers of the region are the feni, Muhuri, sangu, matamuhuri, Bakkhali, and naaf.



**Any Question ???**



# Thank you

