**For 6th Sem (Paper 6.3 2016/ 2018) Prepared by: Mala Moni Kalita**

**Biodiversity in Assam and problems associated with its conservation**

Assam, a constituent state of India, holds a unique position in the country’s strategically very important north-eastern region. The present physiographic configuration of Assam is characterised by diverse features such as floodplains, marshes and beels, scattered hillocks, folded hill ranges and old plateaus. Assam lies in the regime of monsoon climate with a hot and wet summer and a cool and dry winter. However, the state shows marked variation in its climatic pattern mainly because of its peculiar location, natural vegetation, and presence water bodies including rivers. Tic soils of Assam arc generally divided into four groups-alluvial soils, piedmont soils, hill soils and lateritic soils. The alluvial soils are extensively distributed over the Brahmaputra and Barak plains. The hill soils are generally found in the southern hilly terrains of the state. The lateritic soils in the state extensively occur in the NC Hills district and some parts of southern Karbi Plateau.

The terrestrial natural ecosystems of Assam are mainly forest ecosystems covering both the hills and the plains, besides the grassland ecosystem. The aquatic ecosystems are both lotic and lentic types. The lotic ecosystems are confined to the main rivers and its tributaries. The lentic ecosystems are mainly the large stagnant water-bodies locally known as beels, ponds, swamps and other waterlogged areas. Moreover, although limited number and area, the national parks and sanctuaries in the state bear immense significance so far as biodiversity is concerned. The national parks and sanctuaries in Assam cover around 3% of state’s toatal area as against the country’s 4.3%.

Assam is the homeland of several population groups such as the tribals, the indigenous non- tribals, the Bengali Hindu immigrants, the Muslim immigrants, the Napali immigrants, the tea labourers and several other groups from within the country. Although the process of assimilation among different populations is still going on, the groups maintain considerably their traditions and cultures in the territories under their occupation. Thus the composition of population in the state exhibits great diversity.

Plant Diversity: The vegetation of Assam is primarily of tropical type covering areas of evergreen, semi-evergreen, deciduous forests and grasslands. Stretches of riparian forest found along the river banks are also very important. The available records and enumeration lists suggest that there are 3017 species of flowering plants. Assam houses quite a good number of medicinal plants including several rare, endangered and endemic species. The state is also rich in bamboo diversity, where 10 genera and 42 species can be found. In the case of cane, the total number of species reported stands at 14. A large part of Assam is covered by wetlands rich in both flowering and non-flowering plants.

Animal Diversity: The state of Assam (whole North-East India) represents the transitional zone between the Indian, Indo-Malayan and Indo-Chinese bio-geographical regions. It is, therefore, considered as one of the biologically most diverse areas in the whole of South Asia. Here, the forests are extremely rich and diverse with wide varieties of primate, carnivore, herbivore and birds. About 193 species of mammals and more than 958 species and subspecies of birds are so far reported from Assam. The state possesses 16 important protected wildlife areas, which house nearly 44 types of endangered and rare species of mammals and 14 types of reptiles and amphibian. Altogether 230 forms of mammals (species and sub-species) have been recorded so far from Assam. There are 14 species of primates in Assam, which constitute 1/6th of the total primate species of the world. As many as 19 cat families are reported to be found in the state. Moreover, Assam holds the entire known world population of Pigmy hog, 75% of the world population of the Indian rhinoceros and Wild water buffaloes and a sizable population of Asian elephants and tigers.

Agricultural Diversity: Assam (NE states) is the core of the widely recognized centre of diversity of several field, horticultural and cash crops. The geographical location, physical features and historical factors made the state an area of unique ethnic and cultural diversity. Variations among different ethnic groups in their traditional knowledge of uses, quality preferences and farming practices arc the additional factors adding to the diversity of the plant species. Assam is a part of the broad region widely recognized as they centre of diversity of rice. The indigenous rice of the region is endowed with wide genetic diversity and represents a wealth of valuable gene systems. Assam possesses reasonably rich diversity in several gram legumes. Altogether 61 lines of green gram, 59 lines of black gram, 44 lines of lentil, 12 lines of arhar and 29 lines of field pea are being maintained at the Regional Agricultural Research Station (RARS), Shillongani. Sugarcane has been in cultivation in Assam since long past. Out of 24 wild species of L sugarcane in the country, 12 are found in north-eastern region including Assam. Assam is known for its tea plantation. The gene pool of tea consists of cultivated species; wild species, weedy relatives, old seed jats or land races, improved clones and breeding lines/ hybrids. The diversified ecology of Assam is unique for growing a large number of fruits and vegetables of tropical, sub-tropical and temperate origin. Assam is exceptionally rich in citrus and banana. Another unique feature of the state is the occurrence of aquatic fruits like makhana. Besides, large number of minor fruits of medicinal and therapeutic values arc grown all over the state either in backyard gardens or in the forests. Vegetables grown in the state include tropical vegetables like cucurbits, various kinds of bean, some varieties of leafy vegetable, lady’s finger, etc. and temperate vegetables like cole crops, tomato, pea, carrot, beet, etc. Almost all temperate, topical and sub-topical commercial vegetables are being grown in Assam.

Problems associated with the conservation of bio diversity in Assam: The problems associated with the conservation of bio diversity in Assam are-

1. population growth and density
2. habitat destruction caused by anthropogenic factors
3. overgrazing,
4. poaching,
5. Flcoding and erosion
6. application of agrochemicals
7. biopiracy and
8. political Problems