

nearest the river, increasing their vulnerability. Although the embankments are built on government land, the government of Assam has not taken a hard line approach towards the illegal settlements. It would be complex and costly to resettle the riverbank inhabitants on private land, and the government has supported the provision of limited facilities (e.g., basic drinking water supplies, and in some instances electricity and some educational facilities).

Recurring floods in the Brahmaputra and the Barak Valleys of Assam affect large areas almost every year. Starting generally from May to September, this natural calamity hits 3 to 5 lakh hectares of crop land depending on its magnitude. 47 lakh people of 5,300 villages were badly affected during the floods of 1998. Agricultural crops in 9.7 lakh ha were damaged, 30,400 dwelling houses were swept away, 156 people and 7814 Nos. of cattle died. During 2004-05 floods 9,97,262 ha of crop area and 14,30,830 small and marginal farm families were affected. The flash flood and early floods are most common in the districts of Dhemaji, Lakhimpur, Sonitpur, Darrang and Jorhat although as many as 17 districts out of 23 generally face floods fury. Annual loss ranges from Rs. 50 crore to Rs. 100 crore and in severe case it shoots up to Rs 1000 crore.

In recent times many of the districts are facing acute problem of sand deposition converting fertile cultivated lands into barren lands overnight. Heavy river bank erosion is also causing serious problem to many riverine areas. The state has 31,50,000 ha of flood-prone area out of which 17,27,000 ha have been covered under various protective measures. The flood situation in Assam disturbs the socio-economic system of all the North east states as surface communication, both road and rail, to all other states of the region passes through Assam only.

**Major factors responsible for floods are briefly discussed below:**

- (a) **Heavy Precipitation:** The region receives exceptionally high rainfall, the annual average being about 400 cm. Further, sometimes the intensity of rainfall is so high that more than 40 cm. of rainfall is received in a single day which is higher than the average annual rainfall of many countries of the world. When such high quantum of rainwater has to rush through a narrow valley, flash flood is the natural outcome.
- (b) **Susceptible Water Sheds:** Assam is surrounded by Bhutan Kingdom on its North- Eastern side and the North-Eastern states- Arunachal Pradesh, Nagaland, Manipur, Mizoram and Meghalaya on its North, East and Southern sides. All these hilly terrain mostly drain into the saucer shaped Brahmaputra and Barak Valley. These hilly lands are

very thinly populated; more than two-thirds areas are covered with forest. The forests were community-controlled property and the livelihoods of people were perfectly blended with nature. There was minimum disturbance to the local natural resources.

- (c) **Deforestation:** Deforestation is one of the major contributing factors of flood both in the upper and lower catchments. While illegal tree felling and clearing for settled agriculture and development activities such as road-construction, new settlement for civil and commercial activities lead to large scale deforestation in hill areas, large-scale forest encroachment and rampant illegal felling are two main causes of deforestation in the plain areas. Instead of 30% prescribed norm, Assam does not have more than 20.6% forest cover, that too, including the two hill districts of the state. In addition to the dense forest areas, Assam has 14,784 sq. k.m. of open forest whose canopy density is less than 40% and therefore these are not effective for Soil and Water conservation purposes.
- (d) **Rising of Brahmaputra river bed:** The Brahmaputra, one of the largest rivers of the world, originates from south of Tibet (China) at 5300 M height near Manas Sarovar, traverses an easterly course of 1625 k.m. in China and reverses to western course on entering India. It traverses 918 k.m. in India (Assam & Arunachal) then flows downward a distance of 337 k.m. through Bangladesh to join the Ganges and falls into Bay of Bengal. Out of 5,80,000 sq k.m. of its catchment 50.5% falls in China, 33.6% in India, 8.1% in Bangladesh and 7.8% in Bhutan. The average discharge during rainy season recorded at Pandu is 20,000 cumec, during flood the range fluctuates from 50,000 cumec to 75,000 cumec. During the winter lean period the average discharge is less than 2000 cumec. It is observed that the 1950 earth-quake (Richter scale 8.7) has considerably raised its bed resulting into extensive erosion on the southern bank and manifold increase of the flood plain.
- (e) **Embankments:** For protection of flood, embankments were constructed on both sides of the flood-prone rivers including the Brahmaputra since 1954 to 1970. During this period 4566 k.m. of embankments were constructed. These were partly effective in combating flood menace. But the benefit was short-lived due to improper specification, poor maintenance. The breached embankments and insufficient outlets led to serious flood problems, giving the embankments a dubious character, both beneficial and harmful.
- (f) **Encroachments and Interference with drainage:** Construction of roads, highways, railway lines, etc. without considering the nature and pattern of drainage system of the area have contributed in

enhancing the flood problem in many parts of the state. Due to population explosion, extensions of crop-lands and human habitations have suffocated the natural drainage system in many areas resulting into acute flood problem.

### **Problems of Agricultural in Assam:**

Assam's economy is fundamentally based on agriculture. Over 70 percent of the state's population relies on agriculture as farmers, as agricultural laborers, or both for their livelihood. Agricultural development problems and economic development problems go hand-in-hand in Assam. Thus, while most of the development problems discussed below are agriculture-related, some of these are also related to the economic development problems in Assam.

- (a) **Natural Calamities:** Floods and dry spells are the principal natural disasters faced by farmers in Assam every year. The principal source of floods is the Brahmaputra river and its tributaries. Although it has been decades since the proposal to dredge the Brahmaputra came out, its progress and impacts are unknown. The loss of crop, livestock, house, cultivable land, and human lives are common during the yearly flood, which also takes a toll on human spirit. It is estimated that such yearly losses amount to millions of rupees. Although current estimates of losses from these annual floods are not available, it costs over Rs. 400 million in 1978 (Dhar, 1994), which was almost 2.4 percent of the state income (SDP) during the same period.
- (b) **Capital Deficiency:** Commercial capital, i.e., loans from banks or other credit agencies, is not generally accessible to farmers in Assam. As a result, borrowing from unscrupulous lenders, who are not regulated by the state, at an extremely high interest rate is common in the state. Tragically, in many instances some borrowers lose their livelihood, i.e., their cultivable land, to these unscrupulous lenders. Although the amount of commercial loan for agricultural purposes was over Rs. 77 billion in 1990-91, most of these loans went to tea gardens. In 1989-90, commercial banks spent only 40 percent of their agricultural-loan budget. Their main reason for refusing agricultural loans was a lack of necessary collateral, mostly in the form of land.
- (c) **Marketing Problems:** Agricultural markets in Assam are under-developed. Farmers sell to the nearest dealer/buyers, mostly immediately after harvesting when the price is at the lowest, instead of trying to find the best market for their products. Geographical isolation, weak transportation and communication systems, poor marketing facilities, poor or non-existent market intelligence (e.g.,

information on price and place to sell) are some of the principal marketing-related problems. While most of the brokers/buyers have access to modern communication facilities such as telephone and regular and timely market reports, farmers in Assam are many years away from having such facilities to gauge the market and sell accordingly.

- (d) **Research and Development (R&D):** The Assam government started allocating funds specifically for research and development only since the sixth five-year plan (1980-85), with an amount equal to 0.06 percent of the total outlay of Rs. 11.2 billion. It is encouraging to note that such outlays were increased to 0.2 percent in the seventh plan and to 0.5 percent in the eighth plan. However, it is not known how much of this R&D outlay is spent to improve agricultural productivity in the state, or how much of the total R&D output has reached farmers. An assessment of the impact of past and current R&D in the state would provide answers to such questions.
- (e) **Land Reform:** Although the intent of land reform may have been to distribute land to all eligible landless citizens of the state, it resulted in increased land fragmentation, discouraged use of modern and efficient production technology, and increased bureaucracy and corruption. It is perhaps timely to examine the real impact of land reform in last few decades in terms of its effects on the growth and development of the agricultural sector in the state.
- (f) **Non-economic Factors:** Lack of education, ignorance about the changing economic conditions, out-dated thinking, prejudiced cultural values, disturbed law and order situation, and lack of scrupulous legislative and administrative machinery are some of the principal non-economic factors that hinder agricultural development in Assam. While the first four factors are mostly socio-cultural, which may take time to change for the better; the latter two factors are mostly political. All these factors adversely affect agricultural as well as economic development of the state. Political and administrative instabilities not only create an unstable economic environment which scare away entrepreneurial skills, capital necessary for growth, and induce brain-drain, they also adversely affect socio-economic infrastructure, such as education, intellectual thinking, social and family structure. Obviously, the on-going political unrest in Assam since the late 1970s is not helping the agricultural sector or the economy of Assam.

## **Disguised Unemployment:**

When more people are engaged in some activity than the number of persons required for that, this is called disguised unemployment. For example, an agricultural field requires 4 labourers but people engaged in this activity are 6 then this unemployment for 2 labours is called disguised unemployment. There are also instances where we find too many people working when so many are not required. In agriculture we may find that all members of the family work. It is possible that 3-4 people can do a given work in the farm, but we find that the whole family of say 10 people doing the job. This may be because the excess people are not able to find employment elsewhere, so rather than remain unemployed they prefer to do the work along with others. This is known as disguised unemployment. This occurs when more than the necessary numbers of people are employed for the specified work. Disguised unemployment is found in agriculture because of the lack of employment opportunities elsewhere. Similarly disguised unemployment can be found in industry and offices as well. Some of the factors responsible for the problem of disguised unemployment are discussed below:

**Rapid growth of population:** Population is growing at an alarming rate in Assam. Employment generation has not taken place at the same rate thus causing disguised unemployment.

**Low agricultural productivity:** Though agriculture plays an important role in Assam economy it is marked by low productivity. As a result, agriculture has not been able to gainfully absorb a huge section of population.

**Low industrial development:** Assam is still an industrially backward state. Because of slow pace of industrial development employment generation has not been satisfactory and with the population growing at a rapid rate the pressure on land has been increasing thus creating the problem of disguised unemployment.

**Decline of cottage industries:** Traditional village and cottage industries are facing various problems like stiff competition from organized industries, shortage of raw material, dearth of credit etc. As a result these industries which used to provide employment to many have declined which is responsible for disguise unemployment.

## **Border Area Development:**

North East India (NEI) comprises Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura and Sikkim is often described as land locked and also said as the gateway to Southeast Asia.

NEI is connected to the main land India by a narrow land at Siliguri corridor that is only 21 to 40 km in width and popularly known as the Chicken's Neck. The border trade of NEI and neighbouring countries is a thousand years old exercise. NEI is the melting pot of different races from the east due to its geographical proximity to neighbouring countries which develop the people to people relationship and trade.

The historical evidence and gaining importance of regional cooperation reflect that NEI has tremendous opportunities to trade with neighbouring countries namely Bangladesh, Bhutan, China and Myanmar, whom the eight states of NEI share 98 percent of the international border and only 2 percent border share with the main land India. The total length of the border between NEI and foreign countries is 5249 k.m. NEI is bounded by Tibet and China in the East, Bangladesh in the South East and Bhutan in the West. In October 2003, an agreement was signed between India and ASEAN which increased the importance of border trade with neighboring countries. Further in the context of the free trade area formed by India, Pakistan, Bangladesh, Nepal, Sri Lanka, and Maldives and India's look east policy border trade of NEI assumes more significance.

### **Border Trade and North East India:**

In 1995 the Indian Institute of Foreign Trade noted in a report that the unofficial trade worth of Rs. 2000 crore takes place between India and Myanmar through Moreh of Manipur and Tamu of Myanmar. The commodities exported to Myanmar through Moreh are medicine, cement, oil etc. and goods imported from Myanmar are wood, fruits, vegetables, cigarettes, blankets etc. Illegal trade of Rs. 500 crore and Rs. 200 crore takes place through Champai of Mizoram and Lungwa of Nagaland respectively. More over unofficial border trade takes place through Pansu Pass of Arunachal Pradesh via historic Stillwell road with Myanmar. Illegal export items from NEI to Myanmar are cycle and cycle parts, motor accessories, textile etc. and articles like electronic and synthetic product are smuggled into NEI.

NEI has border trade with Bangladesh through Daoki and Bholagonj of Meghalaya, Karimganj, Sutarkandi and Steamerghat of Assam, Kailasnagar, Bilonia and Chanamua of Tripura. The trade articles are generally agriculture and industrial products. Though the trading of agricultural goods is considered legal but trading of most of the industrial products are illegal. The goods which are legally and illegally exported to Bangladesh from North East are orange, pineapple, potato, ginger, rice, ply wood, coal, lime stone, boulder stone, petroleum products, medicines, fishes, cotton, cloth, paper, leather etc. On the other hand commodities are

imported to India from Bangladesh are electronics goods, coconut oil, jute, poultry products, processed food, readymade garments, high quality cloth etc.

India and Bhutan share 643 km international border and formal border trade takes place through Hatisar land custom station of Assam. Apart from Assam, border trade continues through Bleting, Bongkhar and Dongshengmang of Arunachal Pradesh. Export articles from NEI to Bhutan are petroleum product, fruits, rice etc. and import items are ply wood, block board, spices, liquor, boulder stone etc.

China and NEI make their border trade through Nathula pass of Sikkim. The import articles from China are Goat skin, Wool, Yak tail, China Clay, Sheep, Sheep skin, Raw silk, Borax, Butter, Horse, Common salt etc. and exportable articles are Tea, Coffee, Rice, Tobacco, Shoes, Liquor, Cigarettes, Hardware, Cloth, Flour, Vegetable oil, Kerosene oil, Palm oil, Wheat, Spices, Stationeries, Milk process product, Utensils, Cycles, Blankets, Agricultural implements, Copper products etc.

### **Advantages of Border Trade:**

Border trade is very significant to promote over all development of NEI. As NEI is one of the hot spot areas of the world in view of the richness of biological and habitat diversity and it has tremendous opportunity for NEI to export the following items:

- (a) **Orchids:** NEI is very famous for different types of orchids. Out of 925 varieties of orchids available in India more than 600 varieties are found in NEI, which 200 varieties are unique to this region and 60 percent of these are ornamented in nature with high demand in China and international market.
- (b) **Horticulture:** NEI is famous for production of apple, pineapple, banana etc. including 4500 species of flowering plants which also have high demand in market.
- (c) **Forest Products:** NEI is full of greenery and many valuable plants like timber, bamboo, cane, sun grass, rubber etc. grow naturally. The commercial use of these plants is very high and potential source of revenue. There is ample opportunity to establish forest base industries which can produce different types of ornamental and decorated articles.
- (d) **Herbal Products:** NEI has a rich tradition of herbal health care. The tribes of the region so far identified 1500 species of plants having medicinal properties. Herbal medicines could capture the world market.

- (e) **Aromatic Plants:** NEI offers a vast array of aromatic plants such as Citronola, Vanilla, Patcholi etc., which can be used in aromatic industry for the manufacture of perfumes, incenses etc. for export.
- (f) **Mineral Resources:** NEI is bounty of minerals like petroleum, limestone, marble, coal, dolomite, natural gas etc. which are in huge demand in international market. Through proper allocation and converting value added product will be sold in neighbouring counties.
- (g) **Tourism Products:** Assam and the NEI as a whole has unique natural beauty, different species of wild life, religious places, historical and heritage sites, diverse and attractive tribal culture which could make the region attractive tourist spot with the development of modern infrastructural facilities. Coopers and Lybrand's report states that if the vast tourism potentialities of the NEI are fully tapped and developed, within 20 years the region will receive more tourist than Singapore and Bangkok. It will help in increasing employment opportunities in this part of the country.

### **Adverse Effect of Border Trade:**

Despite having advantages there are some adverse effects of border trade. Many times border trade is not running formal and legal way due to various impediments. It has huge possibility to trade narcotic drugs illegally along with essential commodities which may lead to instability in the society. More over the intensity of smuggling is very high in border trade. Further it is noteworthy that NEI is an agrarian economy and the infrastructure and industrial development is infancy to compete with the neighbouring countries.

### **Strategy for Smooth Border Trade:**

- (a) **Development of Physical Infrastructure:** The border of NEI covers mountain range, dense forest and rivers. NEI fall under the hill area and the internal transport and communication network in the hill states is not at all conducive for speedy growth of the region's economy. Therefore, government need to play vital role for massive infrastructural development by way of constructing all weather roads, railways and air connectivity, telecommunications, banking and finance.
- (b) **Development of Social Infrastructure:** The removal of bottlenecks in physical infrastructure alone cannot encourage trade. Several other institutional arrangements are also necessary for this. The creation and recognition of well defined private property rights as the existing



system of social ownership of land cannot operate successfully in a market oriented economy. Development of knowledge industries based on indigenous resources so that products, process and patent could be exported. In exploring economic opportunities through external trade, utmost caution needs to be taken to avoid harmful effects of trade on the existing agrarian structure and food security of the state.

- (c) **Techno Economic Survey:** A macro level techno economic survey is necessary before venturing into any structural change in the economies of the states of north east India. The possibility, technical feasibility, economic viability and sustainability including cost and benefit of each area of development are to be studied by professional and competent agencies.
- (d) **Government Initiative:** Government should formulate policy for concessional freight tariffs for movement of goods. This will make the NE states a natural base for exports to and import from neighbouring countries.
- (e) **Thrust Area:** NEI has to identify a few well defined thrust areas having comparative advantage and concentrate itself by specializing in these areas of production so that it can produce in excess of local demand.

### PROBABLE QUESTION

#### Short Questions:

- 1) Define agricultural labourers.
- 2) What is disguised unemployment?
- 3) Name one country bordering Assam.
- 4) What is the main aim of Look East Policy of Government of India?
- 5) What is manpower planning?

#### Short Notes:

- 1) Immigration problem of Assam
- 2) Border trade prospects of Assam
- 3) Agricultural Labourers
- 4) Disguised unemployment

#### Long Questions:

- 1) Examine the nature and causes of unemployment problem in Assam. What steps have been taken by Government of Assam to tackle unemployment problems of the state?
- 2) Examine the impact of inflow of foreigners on the economy of Assam.