**6 th SEMESTER (MAJOR)**

**PAPER 603: REGIONAL GEOGRAPHY OF NORTH EAST INDIA WITH SPECIAL FOCUS ON ASSAM**

**UNIT 2: ASSAM**

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**AGRICULTURE IN ASSAM**

1. **Introduction**

While most other states in India are gradually moving away from their traditional agriculture-based economy toward industry or service-oriented economy, Assam is still heavily dependent on the agricultural sector. Compared to most other states in India, Assam is considered a less developed state, which depicts a gloomy picture the economic condition of the state given that India is considered a less developed country (LDC). While the socio-political problems afflicting the state since the last few decades are partly to blame for a lack of conducive environment for economic development of the state, particularly in industry or service-oriented areas, there are various economic reasons (e.g., fragmented land) responsible for the lagging agricultural sector in the state.

Agriculture is the dominant land use category in the state. It account for about for about 54.11 per cent of the total geographical area of the state. Including persons dependent on plantation, more than 80 per cent of the total population of Assam is dependent on agriculture. With the increase of population and the development of agro-technology, lots of changes take place in the agricultural scenario of the state. The net area sown as well as the gross cropped area increased significantly in the last few decades. This decreases the area under other uses especially area under forest. Although, the development in agriculture has tremendous important in the economy of the state but the ecological impacts of the changing land use pattern need to be considered.

Agriculture is the primary sector in the state's economy. The socio-economic condition of Assam largely depends on its agricultural production. Thereby, the Assam department of agriculture has decided to take up various development measures to ensure growth in crop production.

Agriculture plays the chief role of revenue earning in Assam economy. The state of Assam experiences plenty of rainfall and possess a fertile land which is extremely advantageous for cropping. This has led to the flourishing growth in food crops and staples in Assam agriculture. Rice is the main food crop in Assam agriculture as it is the main diet in the state too. Those who are engaged in the agricultural department of Assam fully concentrates on cultivating rice as it falls under their main priority. Other food crops cultivated in Assam agriculture include jute, sugarcane, fruits, tea, pulses, coconut, potatoes, cotton, and are canuts. More than 50 percent of the total population of the state is involved in agricultural activities of Assam.

Assam agriculture is now focusing on horticulture segment of the state. Horticultural crops of Assam agriculture such as coconut, citrus, banana, black pepper, and papaya have been placed on the priority list and a range of plantation materials have been ordered for these crops to increase its productivity. Sugarcane is claimed to be one of the main cash crops in the Kharif season in Assam. Also various pesticides and other protection measures are being taken up by the agricultural department of Assam to assure safety to the plantation in the state. All these have contributed to the state's marked productivity in agriculture to a great extent and with the advent to newer schemes; the agriculture of Assam will soon reach the peak of fecundity.

**II. Importance of Agriculture in the State Economy**

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. A majority of state's population, almost 90 percent of an estimated 22.4 million in 1991, live in rural areas where the mainstay of business is production agriculture. In terms of the state domestic product (SDP), the agriculture sector contributed over 38 percent of the state income in 1990-91.

Agricultural Census data (Economic Survey of Assam, 1989-90) shows that total land under cultivation was 2.59 million hectares in 1985-86, or almost 33 percent of total geographical land area of the state (compared to almost 50 percent for India). The average size of land holding (including non-cultivable land) per household was only 1.30 hectares during the same time period compared to an average size of 1.47 hectares in 1970-71. Such fragmentation occurred due to two principal factors:(i) inheritance-related, i.e., breaking down land parcels to distribute among heirs, and (ii) government land reform measures which set the ceiling for land holding per family (50 *bigha* s at present) thereby promoting and facilitating land fragmentation (1). Numerous studies have shown that small and fragmented land holdings are one of the principal causes of low productivity because such land holdings do not facilitate economic and efficient use of modern technology (e.g.,agricultural machinery, chemicals, and hybrid seed).

Assam is far behind in the use of modern agricultural technology to improve its agricultural productivity compared to the rest of the country. For example, the agricultural productivity index for Assam was 156 in 1989-90 compared to 183 for India. Another problem of land fragmentation is the hidden unemployment or underemployment which understates the true unemployment level in the state.

Assam produces both food and cash crops. The principal food crops produced in the state are rice (paddy), maize (corn), pulses, potato, wheat, etc., while the principal cash crops are tea, jute, oilseeds, sugarcane, cotton, and tobacco. Although rice is the most important and staple crop of Assam, its productivity over the years has not increased while other crops have seen a slight rise in both productivity and land acreage. For example, while rice yield per hectare in 1970-71 was 1,022 kgs compared to 1,261 kgs in 1990-91, wheat yield jumped almost three-fold from 583 kgs per hectare in 1970-71 to 1,455 kgs in 1990-91. A similar increase was observed in jute, sugarcane, potato, and rape and mustard.

Tea is the most important cash crop in Assam and the state is well known world-wide for its tea. The total land area under tea cultivation (gardens) was estimated at over 229,000 hectares in 1989, employing an average of over half-a-million people per day. In addition, a considerable number of Assam's population depends on secondary and tertiary sectors-related to the tea industry. However, the exploitation of both precious land and laborers (employees) by the tea companies, most of which are either foreign-owned (non-Indian) or owned by Indian conglomerates (e.g., Tata), is well-documented. Bagchi (1997) reported that although such exploitations are going on for decades and even well-documented in the state government's own inquiry reports, the government (under both AGP and Cong-I periods) has failed to take any appropriate action to end such exploitations.

Continuing to rely on the seasonal monsoon for the necessary water for cultivation is another characteristic of farming in Assam. As a result, potential exists for severe crop failure and consequent economic disaster. To avert such possible catastrophe, it will be necessary to equip the state with irrigation facilities, perhaps in selected areas first, due to the cost factor.

**III. Main Problems of Agricultural Development in Assam**

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. In addition to some of the major problems already discussed in Section I above (thus will not be repeated here), such as land fragmentation, lack of modern technology, or continued reliance on rain for irrigation, there are several other problems that hinder the development of agricultural sector in Assam. Identification of such problems should facilitate finding their remedial measures.

1. ***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 cost over Rs. 400 million in 1978 (Dhar, 1994), which was almost 2.4 percent of the state income (SDP) during the same period. At that rate, such losses for the 1990-91 floods would be a conservative Rs. 2.04 billion (Assam's SDP in 1990-91 was Rs. 8492.3 crores or Rs. 84.92 billion). The question, then, is whether dredging in selected areas is beneficial,

*(****2) 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 reasons for refusing agricultural loans was a lack of necessary collateral, mostly in the form of land. A lack of proper land inheritance documentation and a lack of adequate amount of land (due to land fragmentation) were two of the main reason for lack of collateral among many farmers in Assam. To fill the void left by commercial banks, the Integrated Rural Development Program (IRDP was designed to assist rural farming families with loans to expand and improve their agricultural production as well as to explore alternative avenues to increase income) used over Rs. 626 million in loans in 1990-91. However, the need for agricultural loan remains largely unfulfilled in Assam.

*(****3) 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. In terms of the role of government, earlier studies have shown that government efforts are more focused on collecting revenue (in the form of tax in the daily or weekly markets or through check-gates) than facilitating the marketing of agricultural
products in Assam (Bhuyan, 1990; Bhuyan, *et al.*, 1990; Bhuyan, *et al.*, 1988). A re-orientation of the government's focus from revenue collection to marketing facilitation will be necessary if farmers are to benefit.

***(4) 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.

***(5) 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.

***(6) 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 later 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.

**IV. Concluding Remarks**

Reflecting the characteristics of a typical, less-developed economy, the economy of Assam is acutely dependent on the agricultural sector. Various economic as well as socio-political factors are responsible for the continued lack of growth and development of this sector. In addition, ineffective or inefficient government programs also contribute to this sector's lack of growth.

Amidst continued problems, there is hope for the future. There is potential for agri-food industries that use primary agricultural products as their raw materials, e.g., fruits and vegetable processing industry, sugarcane refining, tea industry, and jute industry. Such growth in the secondary and related tertiary sectors (e.g., packaging, shipping, transportation, etc.) will not only benefit the primary agriculture tremendously, but also reduce growing unemployment and provide the much needed revenue to the state government. In a market economy, private entrepreneurs generally would take the initiative to establish such secondary (and tertiary) industries, supported by commercial credit sources. However, a lack of entrepreneurial and managerial talent, a lack of adequate capital, poor economic infrastructures, government bureaucracy, and continued political-administrative unrest would discourage any would-be investor. It can be argued that the state should step in to fill the gap
which is left unfulfilled by the private sector. However, given the poor performance of state-owned enterprises, the strategy of government involvement in business must be changed. For instance, instead of ownership and management of businesses using state-run corporations, joint ventures with private, including foreign, investors may be economically beneficial.