

## **Executive Summary**

### **State of Assam's Development – The Point of Departure**

1. The most striking fact of Assam's economic development is that it is falling behind the rest of the country. In 1950-51, per capita income in Assam was 4 per cent above national average. In 1998-99 it was 41 per cent below the national average at current prices and 45 per cent below the national average at 1980-81 prices. What is even more alarming is that the gap is growing. Between 1980 and 1990, per capita income at 1980-81 prices grew by 20 per cent in Assam compared with 40 per cent for all-India. Between 1980 and 1998, per capita income in Assam grew by 10 per cent compared with 39 per cent for all India.
2. During 1951-79, Assam's economy grew at more or less the same rate as the rest of India. Yet, Assam's per capita income fell due to higher rate of population growth in Assam due to immigration. Over the period Assam's population grew at an average rate of around 4 per cent per year. The widening disparity since 1980-81 is, however, due to slower growth of its economy. While the Indian economy grew at 6 per cent over 1981 to 2000, Assam State GDP grew only at 3.3 per cent. And though the growth rate of the Indian economy accelerated in the 1990s over 1980s, Assam's economy decelerated in the 1990s. The poor growth performance is in all sectors. Agriculture has grown only at 2.1 per cent per year over the 1980s and 1990s and has slowed down in the 1990s to 1.6 per cent. Manufacturing growth rate in the 1990s was higher at 3.4 per cent compared to 2.4 per cent in the 1980s, while services growth has decreased marginally from 4.9 per cent to 4.5 per cent.
3. The poor growth meant fewer new jobs with rising educated unemployment. Governments in the past have followed the easy way out to increase government and public sector employment. Thus labour-employing activities under public sector like electricity and water supply grew rapidly in the 1980s. The situation today is such that 90 per cent of Assam's tax and non-tax revenue inclusive of its share in central taxes and non-plan grants in 1997-98 went for maintaining the government servant, past and present, that is, for wages, salaries and pensions (NIPFP (1998), State Fiscal Studies: Assam P.40). Very little is left to do what the government is supposed to exist for.
4. It is not that Assam has made compensatory progress in other indicators of human welfare. Its progress in education and health is just about average for the country. In alleviation of poverty too compared to India, it has higher rural poverty and the decline has been much smaller in Assam. Rural poverty shows a decline only in recent years. Assam is the only

major state in India that showed increasing rural poverty over a long period from 1957 to 1994, even though inequality as reflected in Gini coefficient, of consumption expenditure was falling. Urban poverty level has been lower in Assam. However, urban population constitutes only 11 per cent of the total population in Assam compared to 25.7 per cent in the country as per the 1991 census.

### **Reasons for Poor Growth**

5. Floods have been exogenous source of handicap to the development of Assam. Floods in the Brahmaputra and Barak valleys of Assam cause “serious erosion, loss of life and livestock and heavy damage to infrastructure and property retarding agricultural productivity on account of risk avoidance and sandcasting, disrupting communications and education and posing health hazards. The floods damage to crops, cattle, houses and utilities in Assam alone between 1953 and 1995 is estimated at Rs 4400 crore with a peak of Rs 664 crore in a single bad year.” Floods have impeded the technological transformation of agriculture in Assam. For, farmers do not apply costly inputs such as fertilizers and HYV seeds for the fear of their being washed away by floods. 92.6 per cent of the cultivated land is flood prone.
6. Apart from floods, inadequate attention to agriculture has also been responsible for slow agricultural development. Thus, poor agricultural development is due to partly neglect of agriculture and partly the difficulty of increasing productivity with a high probability of floods that may wash away costly inputs. Its consequences on an economy with 89 per cent rural population are overwhelming. This is reflected in a much higher level of the people below the poverty line in 1999-2000.
7. Industrial growth in Assam and North-East has been very poor. Within the region they have lacked good infrastructure and for want of adequate markets the local market does not provide enough demand. Outside the region, they have not been able to compete because of the high transport cost.
8. The partition of the country imposed on Assam and the North-East a huge transport and access disadvantage. This transport disadvantage discourages industry from locating in Assam. Only those industries which are based on special raw materials available in the North-East are likely to locate here. To move a nine-ton truck from Guwahati to Kolkata a distance of 1100 kms today costs around Rs 20,000. A truck going from Chennai to Kolkata, a distance of 1600 kms, costs only Rs 16,000. This also reflects on the quality of road connecting the North-East with the rest of the country. In the pre-partition days, boats laden with tea, coal and timber reached Kolkata from Dibrugarh in eight days. But now Kolkata – Guwahati takes more than 25 days due to customs formalities at various points. The transport

cost has increased. The net effect has been that people pay higher prices for goods imported from the rest of the country and Assam's producers do not get right prices for their products.

9. Of course, one could have developed industries to supply the North-East market itself. The high transport cost would have provided some protection. This did not take place. This suffered from lack of infrastructure within the North-East in the early decades after Independence. This led to a much slower growth of industries and incomes in North-East and Assam than in the rest of the country. Once industrial growth stagnated so did income growth and the growth of demand for manufactured goods slowed down in turn. Thus even industries to serve North-East demand did not grow. A vicious circle developed.
10. Successive governments in recent years have offered many concessions to industries in the North-East. These reduce their tax burden to compensate them for the transport disadvantage to attract them to locate in the region. The New Industrial Policy for the North-East offers very attractive incentives. However, as long as the taxes that the government waives are collected by others, these incentives would not be effective. If the problem of governance can be solved, Assam should now be an attractive place for many industries.

## **Strategy for Development**

11. Assam's economy has to accelerate and catch up with the rest of the country. Assam has come to a state where this seems possible. Infrastructure is in a better shape in terms of roads and railways. Civil aviation can be quickly improved. Power situation can be made better soon if projects under implementation are quickly completed. Telecommunication is growing rapidly and the new technology makes it possible to get connected from any place at modest cost without waiting for government to invest in capacity creation and network expansion. Finance is now relatively easier to obtain. The implementation of the package announced by Prime Minister Atal Behari Vajpayee will give a big thrust to the region's economy. The continuous monitoring of the various measures in a transparent manner where the progress report can be tracked on a website updated every three months, offers hope that these measures will be implemented. Thus the stage is set for Assam to take off.
12. Government has an important role to play in the development of Assam, in the provision of social services, infrastructure and good governance. To do this it will have to put its fiscal house in order. Downsizing of government is the most pressing imperative for faster development. It is critical to develop institutional mechanism particularly to provide accountability and to shake up non-performing governance systems. Decentralization and devolution of financial resources to local Panchayats should be done as soon as possible. People should be given a right to information, so that local bodies function in a transparent manner. A strategy of development led by public action and initiatives all over the state is more likely to succeed, where young men and women clearly perceive the promise that the

future holds out for them. Such decentralized development is less likely to be a victim of extortions.

13. If Assam's development is to be based on its natural resources and on a participatory basis, the following sectors will play important roles:

- Agriculture
- Horticulture and Agro Processing
- Silviculture and Handicrafts
- Fishery
- Forestry and related industries
- Tourism
- Petrochemicals and related industries
- IT based services

These are obvious and well known. We have tried to explore: what has constrained development of these sectors? What should we do now that is different and would lead to better results? These are critical questions.

### **Growth Prospects: A Macro View**

14. Assam's economic development has been falling behind the rest of the country with the gap widening at an alarming rate. While India's economic growth picked up after the initiation of economic reforms in early 1990s to about 6 per cent, Assam missed this opportunity again. All evidences point towards long run stagnancy in growth rate in gross state domestic product at around 3.5 per cent per annum. This stagnancy of Assam is a worrisome feature not only for the state but also for the nation's overall development process. While overall growth rate is slow, Assam has more egalitarian distribution compared to other states. Despite this, Assam is the only state where poverty did not show a declining trend over a long period. Higher growth then becomes a necessary condition for poverty alleviation in a situation where scope for inequality reduction is limited. Quicker economic progress would also help to control insurgency since economic scarcity generates more social tension and fuels insurgency.

15. To eliminate the current disparity between the state and the nation's average level of living would require Assam to adopt a growth strategy to raise its per capita income to the national average by 2025. This would require:

- A pick-up in state income growth to the national level in the medium run of about 5 years.

- A 2-3 percentage points higher growth rate than the national level there after for about two decades.

The above steps would arrest further widening of current disparity in average level of living between Assam and all-India during next 5 years and then gradually reduce the disparity over a period of 20 years. The current shortfall has been built up over more than 40 years and it would not be possible to remove it within a decade or so.

16. Admittedly, it is not an easy task. Yet, it is not an impossible task. Assam has got the required natural and human resources. Generation of required financial resources would involve the following:

- Steady pick-up in investment rate in relation to state income.
- Attraction of private investment in a big way. This in turn requires quick solution of the insurgency problem.
- Maintenance of the important role of the public sector in areas such as irrigation, infrastructure and social sectors where private investment might not come forward.
- Priority should be given to those sectors, which have both comparative advantage and high linkages with other sectors. Among them are sectors such as agriculture, fishery, wood products, textiles, petroleum, fertilizers, edible oil, paper and paper products, and information technology.

17. The task would call for synchronized efforts by various agencies in state and central governments, private entrepreneurs, international financial agencies and non-government organizations. In the era of liberalization and globalization, the key words are 'competition' and 'efficiency'. Assam must improve efficiency by concentrating on sectors which have comparative advantage to withstand global competition. Assam's development has to be based on its natural resources and on a participatory basis. The sectors that offer much scope for development include agriculture, horticulture and agro processing, silviculture and handicrafts, fishery, forestry and related industries, tourism, petrochemicals and related industries and IT based services.

## **Fiscal Management**

18. The government of Assam needs to initiate fiscal, governance and public enterprise reforms to restore fiscal sustainability, improve governance and accelerate economic growth. It needs to reorient spending priorities towards capital expenditure, in particular, rural infrastructure-irrigation, roads and electricity. Apart from making new government employment on contractual basis, while downsizing its regular staff strength, the government also needs to rationalize subsidies and restrict guarantees to viable projects with good credit rating. Moreover, to improve tax collection it needs to strengthen administrative machinery at state

and local level. The central government can provide initial counterpart funds for reform, with monitoring and evaluation. It can also provide special phased grant to repay part of state liabilities and link transfer of funds to fiscal performance.

19. An Action Plan would therefore be

- Reorient spending priorities
  - Capital expenditure – rural infrastructure (irrigation roads and electricity)
  - Safety-nets based employment programmes targeted at rural areas and uneducated youth
  - Any new government employment on contractual basis along with downsizing of regular staff
  - Staff transfer from state to rural and urban locations
  - Rationalization of subsidies
  - Restriction of guarantees to viable projects with good credit rating
- Improve tax revenue generation
  - Strengthen administrative machinery for tax collection at state and local level
  - Impart technical training with help from the centre
  - Focus on high-yielding/ buoyant taxes
  - Levy taxes on *ad-valorem* basis (on value, not quantity)
  - Introduce price differentiation
  - Cut out exemptions
- Improve non-tax revenue generation
  - Increase user charges appropriately at state and local level
  - Improve efficiency of operation of public enterprises
  - Privatize enterprises in sectors not very relevant for the government
- Impose limit on total borrowings/ debt accumulation
- Make fiscal operations transparent to the public
  - Full disclosure of policy intentions
  - Report on receipts/ expenditure and contingent liabilities
- Establish well-functioning local governments in urban and rural areas with
  - Adequate powers, functions and resources
  - Fiscal autonomy to decide upon, collect and spend their revenues
  - Planning and implementation of development programmes
- Central government to provide
  - Initial counterpart funds for reform, with monitoring and evaluation
  - Special phased grant to repay part of state liabilities
  - Transfer of funds linked to fiscal performance

## **Poverty, Education and Health**

20. Development is incomplete without social development. The poor performance in terms of rural poverty is mainly due to the low productivity of non-skilled agricultural labor and low real wages. Assam ranks 12th among 16 states in terms of human and gender development indices. Poor indicators are not as much due to expenditure shortfall as they are due to inefficient expenditure management. Public expenditure on health and education as a percentage of SDP is higher than the average for all states and increasing. Per capita expenditure on education is higher than the average for all states and increasing. Large percentage of expenditure is however, unproductive, going to wages and salaries. Gap between plan outlay and utilization exists possibly due to the inability in mobilizing resources to meet the matching fund requirements for centrally sponsored programmes. There is a need to recover costs of providing public services to the maximum extent possible, reduce establishment costs and administrative overheads and transfer expenditure authority to local bodies who are directly responsible and accountable to the local people.
21. Provision of better education and health facilities is necessary to strengthen the capabilities of the poor and vulnerable groups to earn income. Resource constraints make it imperative that poorer geographic regions need to be targeted first so that resources are not thinly spread and the quantum of subsidy is large enough to pull the poor out of poverty on a sustained basis. Resource constraints need to be overcome through innovative means, e.g., use of health cards (similar to ration cards) to protect the poor and introduction of user charges for certain health services. Universal elementary education can be achieved by providing special incentives such as mid-day meals and special subsidies, for example to girl children to close gender gaps in education. Innovative measures can be used such as the Education Guarantee Scheme of the Madhya Pradesh government to reduce the costs of schooling and increase the accountability of teachers.
22. The broad areas of action to be followed are
- Provision of better education and health facilities to strengthen the capabilities of the poor and vulnerable groups to earn income.
  - Focus on asset formation through employment generation programmes in order to achieve sustainable poverty reduction.
  - Use of tools of geographic targeting to target the poor so that resources are not thinly spread and the quantum of subsidy is large enough to pull poor out of poverty on a permanent basis.
  - Provision of better irrigation facilities and water management in order to encourage the self-employed in agriculture to diversify their activities and increase their incomes.

- Development of opportunities for non-farm employment by strengthening rural marketing infrastructure and deregulation of markets (removal of small-scale sector reservations and restrictions under the Essential Commodities Act).
- Encouraging local community participation in decision making by strengthening the decentralization process through Panchayati Raj institutions.
- Use of modern technology to overcome some of the existing infrastructural bottlenecks (e.g. cellular phones).
- Improving the social status of women through better access to education apart from improving health care services.
- Overcoming resource constraints by introducing user charges for certain health services. Enhancing household's ability to pay through risk sharing mechanisms such as insurance and other forms of social financing including employer health-based insurance schemes. Use of health cards (similar to ration cards) to protect the poor.
- Achieving universal elementary education by giving special attention to remove various kinds of disparities- caste, gender and regional. Provide special subsidies, for example to girl children to close gender gaps in education.
- Removing the administrative burden of mid-day meal scheme on the educational system by providing free of cost additional foodgrain quota for school going children, through the regular public distribution system.
- Use of innovative measures such as the Education Guarantee Scheme of the Madhya Pradesh government to reduce the costs of schooling and increase the accountability of teachers.
- Exploit the potential for cost recovery in higher education.

## **Infrastructure and Industries**

23. The Partition of the country imposed on Assam and the North-East a huge transport and access disadvantage. The development of infrastructure, roads, railways, power and telecommunications in Assam has not kept pace with those in the rest of the country. The following are some areas of action in the transportation sector.

- Maintenance of existing roads needs to be improved as many roads are in poor state and all weather connectivity for many villages is limited
- Congestion on the Siliguri-Guwahati sections of the railway should be relieved either by double tracking or providing adequate bypass siding.
- Army and the railways testing and certification facilities should be set up in Guwahati,



- Bridges across Brahmaputra are extremely important for connectivity and there are only three bridges today.
  - Air connectivity is vital for a modern economy. To develop tourism, it is a must. Fuel price and tax concession are offered to encourage internal air services within the North-East should be continued.
  - Convenient same day return flights to Kolkata are needed.
  - The inland water transport network was disturbed by partition and further disrupted by the earthquake of 1950. Its revival needs a coordinated effort to provide infrastructure support and night facilities.
24. Per capita electricity consumption in Assam is only one fourth of the all-India consumption reflecting the poor quality of life and low-level of economic activity. If all the projects, which were under implementation in March 1996, were to be completed, the NE would have a total installed generating capacity of 3396 MW, enough to meet its demand for some years. The work on these projects proceed at a slow pace due to lack of funds. The gap between the average cost of supply and the average tariff is a phenomenal figure of Rs 4.50 per unit. Power sector reforms have become critical to improve the financial position of ASEB and should be steadfastly pursued. Apart from pressing for more funds for large hydel projects conceived years ago a fresh look at them should be taken for alternative designs taking into account their social and environmental consequences.
25. A world-class telecom service offers an opportunity to Assam to overcome its traditional access disadvantage. Government policy must facilitate development of telecommunications in the North-East which has difficult terrain and many remote villages. Availability of credit is critical for development of small enterprises. The credit disbursed by banks and financial institutions needs to be stepped up.
26. Development of infrastructure can make the North-East market accessible to industries and stimulate industrial growth.
27. The army and the railways demand significant goods in the North-East. Some industries could have been developed to meet these demands. Unfortunately, products have to be tested and certified for their quality. This, however, is done in Kolkata. A supplier may have to make few trips to Kolkata the cost of which small entrepreneurs could ill afford. Of course, if testing and certification facilities are set up on Guwahati, this disadvantage could be overcome.
28. Yet Assam and North-Eastern States' development can get a big boost if trade with neighbouring countries -- Bangladesh, Myanmar and China -- can be made freer. The Ministry of External Affairs can do more for the North-East than perhaps what Planning Commission can do.

29. Along with the development of modern industries, the scope to develop handicrafts and traditional industries should not be forgotten. Assam's handicrafts need to be marketed to obtain high prices for them. This requires modern design and a marketing set up that targets high-income consumers in the world. A system to encourage private designers and entrepreneurs needs to be evolved. Assam's unique Muga silk has not seen any technological development as hardly any research effort has gone into it. A silviculture research institute should be set up in Assam.
30. The Central Government should continue to provide special concessions to Assam's industries. Unless extortion by various insurgent groups is brought under control, industrial growth is unlikely to accelerate despite many tax concessions and very attractive incentives to industries. We need to understand better how militancy and insurgency can be contained. This however needs a separate study.

### **Inland Water Transport**

31. While flooding no doubt has its negative consequences the river Brahmaputra can be used to promote economic growth. Development of river communication in Brahmaputra will be a turning point for the sustainable economic development of the region. Integrating with other modes of transportation, Inland Water Transport (IWT) can play a vital role in infrastructure building in an under developed state like Assam. The use of waterways will generate employment, both directly and indirectly. Trade and other economic activities will enhance the economy of the region significantly, especially if incentives are provided for investment in water transport. The infrastructure of inland water transport can help mitigate the impact of floods. A detailed cost benefit analysis of opportunities for defense, communications and transport and tourism on the entire length of the Brahmaputra would bring out the true potential of investment in water transport.
32. The importance of inland water transport has been highlighted by the disastrous flood situation in Assam. In 2002, not less than one-fifth of Assam's population is crippled by devastating floods -- about five million have been displaced from their homes with property and livestock damage. The number of relief boats, including the private vessels requisitioned by the district administration, are inadequate to meet the emergency and the outbreak of diseases are likely. Decades of building bunds and embankments have only aggravated the problem of flooding, trapping millions as the embankments gave way to the surging river tides.
33. Successive governments have failed to encourage inland water transport as well as construction of large number of vessels -- medium and small size especially -- which can play a crucial role in evacuating the marooned and reaching relief supplies to the needy at

times of floods. Year after year, the same tragic scene is replayed but no long-term solutions are thought of except of bunding the river. It would be far more practical to encourage an investment in boat-building that would ensure that every village prone to floods and displacement has at least two well equipped boats to move people to higher ground and also get relief supplies to them. This should be undertaken on an emergency, mass footing. It can generate employment and develop a strong base for inland water transport. Roads and railways cannot reach millions of people at times of flood -- the river, used as an ally, has help those in distress from its power.

34. The Government must ban further construction of embankments by unthinking engineers, supported by politicians and officials, who do not understand the hydrology of the river. It should also include social scientists, environmentalists and geographers in developing strategies to deal with the situation. Otherwise both flood relief and funds meant for "embankments" are likely to go only to the corrupt and well-connected, and death and devastation in the Assam Valley will continue.
35. A lot of manpower time, energy and opportunities for employment generation are lost during the months of high water. Virtually every other sector of Assam's economy, whether it is agriculture, fisheries or tourism is connected to the Brahmaputra and its tributaries. It is thus important to give high priority to development of inland water transport.
36. The following needs to be done:
  - Set up a Brahmaputra Development Authority with appropriate local ownership.
  - Encourage modernization and acquisition of vessels and crafts.
  - Set up basic on shore facilities and strengthen inter-nodal transport with road and rail.
  - Provide fiscal incentives for private developers.
  - Dredging capacity needs strengthening.
  - Develop inland water transport for bulk goods traffic by providing inter-nodal connectivity and developing Farakka as a major inland port.

## **Strategies for Agricultural Growth**

37. Agricultural growth can be stepped up by taking measures to improve cropping intensity. Since crop cultivation in the kharif season is faced with natural risks such as floods the use of HYV seeds and chemical fertilizers and pesticides has been low, resulting in lower yields. Therefore rabi season cultivation needs to be promoted with a continued emphasis on irrigation through shallow tube wells. Taking into account the transport bottleneck and the perishability of the primary produce in the short-run greater emphasis needs to be given to food processing industries. Cultivation of vegetables, fruits, and spices and commercialization of agriculture needs to be encouraged by investing in marketing and

storage facilities. Institutional reforms are needed to ensure equitable distribution of benefits from the rich ground water resources of Assam. Effective participation of the poor farmers can be ensured through revitalizing the local bodies such as the Panchayats. Poor farmers also need to be provided adequate training and extension services.

38. Assam can produce enough agricultural surplus through appropriate technological intervention designed for increasing cropping intensity from its present level of about 146 per cent to at least 200 per cent, and evolving a cropping pattern consistent with its agro-climatic factors. A large part of the state gets severely affected by floods every year, nevertheless, as the technical experts have shown, at least 200 per cent of cropping intensity can be achieved even in the flood prone areas. This, however, requires assured irrigation. Assam is enormously rich in ground water resource on the basis of which, another 47 per cent of the net sown area of the state can be brought under assured irrigation.

39. An action plan would therefore consist of

- Promote rabi season as engine for agricultural growth.
- Aggressively push for commercialization of agriculture.
  - Promote rice, tea, vegetables, fruits, and spices.
  - Develop linkages with downstream local food processing industries.
- Invest in agricultural infrastructure.
  - Ground water irrigation – shallow tubewells (STW) with appropriate institutional structures.
  - Surface water irrigation – for promoting the geographic spread of rabi season and for flood control.
- Marketing and storage facilities.
  - Double the number in three years.
  - Attain the level in Haryana within a decade.

40. The experience of the present STW programme, however, suggests that the technical intervention should have been supported by the required institutional reforms for achieving a qualitative breakthrough. The major institutional reforms required for Assam are summarized below.

1. Conceptually, the Field Management Committee (FMC) is an instrument which can assure participation of the people at the grass-roots in the process of planning and management of agricultural products besides representing a collective ethos for achieving a definite goal. At the empirical level, as it has been noted through the case studies cited earlier, the FMCs have become merely an official requirement for benefit of the relatively

better off farmers. Therefore, it is imperative to restructure the FMCs to assure effective participation of people at the grass-roots and to make it accountable to the people at large instead of any government department. The most effective mechanism will be to bring the FMCs under the purview of the Panchayati Raj which is likely to be revitalized soon in the state. Such a step will not be contrary to the provisions of the Assam Panchayat Act, 1994 which was enacted by and large in conformity with the 73<sup>rd</sup> Amendment of the Constitution.

2. Arranging the required technical training for the FMCs was a primary responsibility of the Department of Agriculture. The performance of the department, in this respect has, however, been extremely poor. Therefore, the department must be geared up to arrange adequate training for the farmers. Besides that, the administrative machinery of the department should also take appropriate steps to ensure support services to the farmers at the time of need.
3. As a part of an effective mechanism of marketing the products, it is imperative to bring the FMCs under a scientifically designed market information system.
4. Tenancy reform is another important step required for agricultural development in Assam. Despite the legal measures taken in the state since Independence against exploitative tenancy, as reported by NSSO in its 48<sup>th</sup> Round, the proportion of tenanted land in total operated area in Assam had increased from 6.4 per cent in 1981-82 to 8.9 per cent in 1991-92. The rate of growth is high, and probably, it continues to grow at the same rate, if not more. With the present practices of tenancy where the costs are not shared proportionately, as indicated earlier, at least 10 per cent of the operational area of the state will continue have low productivity. Therefore, the existing tenancy reform programmes should be implemented in the state more vigorously. So far, the issue has eluded any action.

## **Fisheries Development**

41. It should be possible to increase fish production by 40000 tonnes a year in the next five years indicating a growth rate of 6 per cent per year. The perennial problem of floods, under utilization of aquatic resources and low-lying areas, use of unscientific methods in fishing and indiscriminate poaching of brood fish are some of the main reasons for the current low fish production in the state. Development of storage and transport infrastructure to export fish to other states would however be required to exploit the potential fully. It is also important to ensure that fisheries are exploited rationally. Beel fisheries should be leased out for a longer duration to avoid overexploitation of fisheries. There is also a need to strengthen the cooperative movement in Assam to usher in a revolution in fish farming. The development strategies would consist of the following:

- According to the Department of Fisheries the state's ultimate potential is 400,000 tonnes annually. The existing production level is 160,000 tonnes. Twenty thousand tonnes of fish are imported, some from as far away as Andhra Pradesh. The estimated demand at the current market price is about 180 thousand tonnes. With population growth and increase in per capita incomes demand over the next five years can increase by 20,000 tonnes. To this one should add 20,000 tonnes to replace present imports. Thus, 40,000 tonnes of additional fish production could easily be absorbed in Assam. This implies a fisheries production growth rate of 6 per cent per annum.
42. The sizeable import of fish in Assam indicates the high cost of fish production in Assam. The acidic soil of Assam does impose a burden on fish producers. However, government action in other areas can reduce costs and increase productivity.
43. Apart from access to finance and development of storage and transport infrastructure the measures needed are as follows:
- It is important to ensure that fisheries are exploited rationally. Generally, the Assam Fisheries Development Corporation leases out the beel fisheries for a duration of one-to-three years. This leads to overexploitation of fisheries. It may be noted that there is no provision to control overfishing. Beel fisheries should be leased out for a longer duration (seven years as suggested by fisheries officials) so that there is incentive for the lessees to develop them. It requires about Rs 15,000 to develop one hectare of beel fishery and the investor cannot get the return of this investment in one year.
  - To encourage modern aquaculture practices, integrated farming and pisciculture in agriculturally unsuitable land, extension services must be strengthened.
  - Rearing of fingerlings is an essential prerequisite for obtaining optimum fish production. Stocking of fingerlings of the right size is the most important prerequisite for the success of beel fisheries. Though the state department has claimed to have reached self-sufficiency in production of fingerling, the problem of limited supply of quality fingerlings still persists. Adequate supply needs to be ensured.
  - Strengthen co-operative movement to reduce marketing costs. The Assam Apex Cooperative Fish Marketing and Processing Federation Limited (Fishfed) was established in 1978 to work towards enhancing fish production in the state by encouraging activities of fisheries in cooperatives and also through its own production. However, Fishfed itself is now struggling for its survival. It needs to be revitalized.
  - Asia's biggest dry fish market is located at Jagirod, Assam. It is a Rs 400 crore annual business and on average 400 truck load of dry fish is sold in this market every year. However, it is on the verge of closure with the sales dropping alarmingly following

imposition of eight per cent sales tax by the state government in 1999. That year it resulted in a 75 per cent drop in sales. The government needs to look into the implication of its policy.

- Like other departments of the government, fisheries department also suffers from excessive staff cost, leaving very little for development of fisheries.

## **Forestry and Wood Industries**

44. Alarming deforestation in Assam led the Supreme Court to impose a ban on logging and movement of timber by trucks. This has adversely affected the wood industry in Assam. The Supreme Court ban, however, is till satisfactory working plans for sustainable exploitation of forests are developed. Unfortunately, most of forest divisions have not prepared their working plan. These must be prepared urgently to vacate the Supreme Court ban within a timeframe of months. Even with such plans there may be difficulties in reviving forest-based industry in Assam. The working plans act as a guide for rational exploitation of the forest. The national forest policy of 1988 lay down that the forest-based industries should meet their raw material need from private plantations. However, the forest conservation act of 1927, governs the felling of trees in private holdings. Only through amendment of this contradiction and encouraging large-scale plantation of quick growing species (QGS) forest based industries of the state can be revived.
45. The main causes of deforestation have been excessive logging for industrial uses for meeting fuelwood and other needs by households and for jhuming cultivation.
46. Joint Forest Management (JFM) programmes have been found to be effective for sustainable use of forest area in Assam at least as far as meeting needs for fuelwood, fodder and other non-timber forest products are concerned. Cooperation and effort from the poor villagers in the management and protection of forest cannot be expected unless economic security is provided to them. In most cases the villagers find it difficult to comprehend the mechanisms of the functioning of JFM. A massive motivational and training programme for the people to be involved in JFM can help to serve the objective. The service of VOs can be utilized for this purpose. Demand for fuelwood needs to be reduced by providing cleaner household fuels. Use of biofuels such as wood has an adverse impact on the health particularly of women and children. The use of kerosene and LPG is minimal in most of the villages due to their low economic status. There is scope and necessity to exploit rural energy components (improvized chulla, et cetera) with the JFM programme.
47. To arrest Jhuming one needs stricter regulation. However, regulation by itself will be difficult to enforce. The best mechanism is economic development and creation of alternative opportunities.

48. To encourage private entrepreneurs in sustainable forestry innovative use of market mechanism needs to be made.
49. To preserve forests and wildlife, unrestricted encroachment must be stopped in the forest of Assam. The rapid population growth in the state has put pressure on the land of Assam. So, the people have encroached the forest areas. The Revenue Department of the state is stated to be the main culprit as the department is providing *patta* (settlement rights) to the settlers in the forest areas. Area covered by the forest may not give the actual status unless the density of the forest is taken into account. There is need to use the information of remote sensing for regular monitoring of the forest areas in the state along with their crown densities. There is need to strengthen the Forest Protection Task Force. The outdated 303 rifles are not enough to counter the sophisticated weapons used by the poacher.
50. Above all massive plantation is the way out for sustainability of the forest areas of the state.
51. The following steps must be taken for successful implementation of the JFM programme in the state.
- The service from the poor villagers in the management and protection of forest cannot be expected unless economic security is provided to them. In most cases they are fully or partially dependent on the forest for their livelihood. There is need to make provisions for other support activities for the people to be fully involved in JFM. Creation of assets and other activities such as horticulture, animal husbandry, bamboo cultivation etc. is an essential prerequisite.
  - There is the need to think of evolving a cost-effective alternative to fuelwood to the villagers, otherwise they will continue to exploit the forest.

## **Tourism**

52. Assam and North-East have a vast potential for tourism and should be made a tourist hot-spot like Kerala. The region offers spectacular nature and scenery, unique and varied wild life, scope for adventure sports, cultural diversity and opportunities for relaxation in peaceful setting. To realize this potential, development of tourism related infrastructure such as good roads, telecommunication, good hotels and safari resorts, etc are essential. In addition, there is a need to develop tourist information and travel services. Fiscal and other incentives would also need to be given to private entrepreneurs to encourage a host of tourist related services such as hotels, restaurants, transport, etc. through soft loans and lower tax rates. An integrated approach to promote tourism in the North-East region as a whole could prove useful. The security scenario has to be improved to make Assam absolutely safe for all



tourists. Local people's involvement in tourism should be encouraged so that they benefit from this development.

53. To develop tourism to create awareness and facilities that fulfill expectations. For these the following needs to be done.
- A policy of tourism for the state of Assam has to be evolved on the line of National Policy of Tourism, which incorporates broad policy guidelines to attract both domestic and foreign tourists, sets targets and monitors it.
  - A publicity drive has to market tourism aggressively.
  - All infrastructure connected with tourism should be developed.
  - To develop attractive packages desired by different tourists and provide services needs a flexible customer orientation best provided by private entrepreneurs. The government may offer fiscal and other incentives to the private entrepreneurs to take up a host of tourist related services. Transport, accommodation, and other logistics of tourism could be left to the private sector.
54. Tourism in Assam should not be viewed in isolation. Assam is the gateway to North-East which, as stated already, itself is a reservoir of natural beauty with great variety. An integrated approach to tourism in the region will be more effective. The North-Eastern Council should play an integrated role in this regard.

### **Concluding Observation**

55. In the end, we should note that development of Assam is intricately linked with the development of the entire North-East. With sound policies and good governance, Assam should and can develop much faster than it has been doing. Until the security environment becomes conducive to private investment, the government needs to take the lead. Limited financial resources calls for responsible fiscal behaviour from the government and prioritization of expenditure becomes important. Based on the strengths of Assam in terms of its natural resources and the strong inter linkages with the rest of the economy, top priority needs to be given to agriculture and agro processing, fisheries, forestry and related industries and tourism. Assam can and should develop faster and catch up with the rest of the country.