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### **Abstract**

*This paper makes an attempt to analyze production and consumption patterns of eight states in the Northeastern region of India. It is interesting to observe that while the consumption standards of these states have converged to the Indian average, their production levels lag behind the all India average, making ‘dependency ratio’ rather high. The discrepancy between high consumption standards and poor production performance is being supported by central transfers to these states. Since this is not an economically viable situation, our paper makes several suggestions for economic development of the Northeastern region. We point out that there is possibility of intra-regional trade as well as trade with Bangladesh, Myanmar and Bhutan. But this will require substantial investment in infrastructure to facilitate a greater volume of trade even with the rest of India. The Northeast region, however, has two advantages: higher literacy rate, particularly female literacy rate relative to the Indian average and an environment that is yet to be polluted by industrialization. Investment in infrastructure in the Northeastern region seems to be justified by many factors including the need to achieve an optimal geographic distribution of industrial pollution.*

# Convergence in the Consumption Behaviour: A Northeast Perspective

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## I Isolation of the North-East

In more than one way the NorthEastern region presents an enigma that has baffled those who have studied the federal economy of India. There is now a consensus that the process of economic reform started in the early nineties has been successful in raising the rate of economic progress in the country. The result of economic reform has been so encouraging that we are now heading towards a set of second generation reforms, particularly in the financial sector. Initially there was an apprehension that the reforms might raise growth rates of national income but poverty and inequality might increase. In fact, many political observers feel that the Narasimha Rao government that ushered in economic liberalization for the first time lost the elections due to increased poverty caused by the new economic policies. However, the recent evidence shows that poverty has not increased. The National Sample Survey estimates of poverty shows a 10 percent drop in percentage of population below poverty line between 1992-93 and 1999-2000. Since the economy has performed fairly well in this period as indicated by the macro-economic indicators, the fall in poverty estimates lends support to the view that there need not arise a conflict between growth and poverty alleviation in the Indian economy. Given this scenario, all eyes will now be turned towards the NorthEastern states because here the economic indicators tell a different story. The evidence shows that the reforms have hardly touched the region and as a result regional inequality in our federal economy has presumably increased even though there have been a fairly rapid growth and poverty reduction on an average during the last decade. This is a phenomenon that should worry the federal policy makers a great deal. The demographic profile of the NorthEastern states presented in Table 1 clearly shows that these states are falling behind the rest of the country and this is a problem that needs to be addressed very seriously.

**Table 1 : Demographic Profile of NorthEastern Region**

	Percentage of Population Below Poverty Line (Estimates for 1999- 2000)	Annual Exponential Growth Rate of Population (%)1981-91	Literacy Rate		
			Male	Female	Total
Assam	36.09	2.17	61.87	43.03	52.89
Manipur	28.54	2.57	71.63	47.60	59.89
Meghalaya	33.87	2.84	53.12	44.85	49.10
Mizoram	19.47	3.34	85.61	78.60	82.27
Nagaland	32.67	4.45	67.62	54.75	61.65

Sikkim		2.51	65.74	46.69	56.94
Tripura	34.44	2.95	70.58	49.65	60.44
Arunachal	33.47	3.14	51.45	29.69	41.59
All India	26.10	2.14	64.13	39.29	52.21

Source : National Sample Survey for poverty estimates and Economic Survey, 1999-2000.

Though all India poverty measure has fallen from 36 to 26 during 1992-2000, all North-Eastern states with the exception of Mizoram have poverty levels much above the Indian average and Assam, the biggest among the North-Eastern states, exhibits the highest poverty. Some of the puzzling facts that emerge from the table are : (i) Assam has the lowest population growth rate in the region, though the figures are from the last census. (ii) All other states in the region have population growth rates higher than the Indian average. (iii) Most states in the region have high literacy rates and excluding Arunachal Pradesh female literacy rate is higher than the Indian average. All this indicates very clearly that the development process in the region has not been able to involve the local people effectively. In fact, the work participation rates measured by total workers as percentage of total population are fairly high in the region in both male and female categories.<sup>1</sup> This again points to the hypothesis that no proper utilization of manpower is taking place. There can be several reasons for this. First, the region may be using obsolete technology giving rise to low labour productivity. Second, being sparsely populated, the region may be suffering from transport bottlenecks standing in the way of development of a marketing network that can generate incomes for the local population. Both these factors are expected to cause isolation of the NorthEast from the markets of the rest of the country. Goods will be produced and consumed in the region itself with no real possibility of trade with the rest of India. The purpose of this paper is to show that this is what is basically happening. Unless steps are taken on a priority basis to improve transport and marketing network, the isolation of the NorthEast will perpetuate. Geographical and economic integration of the region with the rest of the country will bring new technology into the region and raise the standard of living. In what follows we look at the consumption and production patterns of the states to show that the region's share in India's consumption expenditures is higher than its share in production of a large number of products.

## **II Patterns of Production and Consumption in the North-East**

The NorthEastern states are : Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura and Arunachal Pradesh. The region is hilly with a fragile land mass making communication difficult and expensive. For many parts of NorthEast, air transport is the only practical means of transportation. The region is sparsely populated. The density of population is the highest in Assam (286 per square kilometer) which also has the highest population in the region. The next is Tripura with a density of 263. The population density in the rest of the states varies between 10 in Arunachal Pradesh and 82 in Manipur.<sup>2</sup> Agriculture and the service sector are the two major components of the

<sup>1</sup> See *Economic Survey*, 1999-2000, page S-115.

<sup>2</sup> The figures quoted are from Directorate of Economics and Statistics, Government of India (NIC).

gross domestic product in the region. The industrial sector is dominated by Tea and Timber in Assam, while Mining, SawMills and Plywood Factories represent most of the manufacturing in the other states. Lack of employment opportunities in agriculture and manufacturing puts pressure on service sector, particularly the government services.

The product range of the NorthEastern states are extremely narrow. Plantation crops constitute a major part of the region's agriculture. Assam's major crops are Tea, Coffee, Rice, Jute, Cotton and Oilseeds. Rice is grown in all the states in the region. Sugarcane, Rubber, Millet, Wheat and Forest Products are some of the other items produced in the region. There is a tendency towards self-sufficiency in the production of foodgrains in all states, though it is unlikely that the states have comparative advantage in the production of all crops. We have calculated the **Revealed Comparative Advantage** measures for mainly agricultural products and these are reported in Table 2. RCA is a static concept and is defined as a ratio between the product's share in the total output of the region and the region's share in national output of the product. For instance, in Assam the share of cereals in the total production of cereals in the NorthEastern region is 17.33 times the share of the NorthEastern region in the national production of cereals. Such a large number indicates that Assam has revealed comparative advantage in cereals among the states in the NorthEast region. In fact, the table shows that Assam has RCA in all the products produced in the region. RCA is a static measure and it is not very reliable.<sup>3</sup> Theoretically, an RCA measure greater than unity is supposed to indicate comparative advantage. Assam exhibits RCA in all products. Other states have RCA in selected products. The table shows that there is scope of specialization in the production of food items in most of the states in the region and the tendency towards self-sufficiency prevents such specialization from taking place.

**Table 2 : REVEALED COMPARATIVE ADVANTAGE, 1993-94**

Items	Assam	Manipur	Meghalaya	Mizoram	Nagaland	Sikkim	Tripura	Arunachal Pradesh
Cereals	17.33	1.75	0.54	0.42	0.82	0.00	2.19	0.65
Rice	11.26	1.17	0.35	0.28	0.54	0.00	1.44	0.42
Wheat	349.66	0.00	15.75	0.00	2.27	0.00	25.65	19.85
Gram	501.48	0.00	107.46	0.00	573.12	0.00	143.28	0.00
Cereal Substitute	5.90	2.86	8.25	5.21	13.94	0.00	0.62	25.01
Pulses & Products	88.03	0.00	3.86	16.68	15.44	0.00	10.04	8.18
Edible Oil	20.98	0.24	0.61	0.20	1.02	0.00	1.13	3.04

<sup>3</sup> See Bela Balassa, *The Theory of Economic Integration*, Homewood, Illinois: Richard D. Irwin., Inc., 1961.

Pan, Tobacco & Intoxication	26.57	0.00	11.07	19.93	0.00	0.00	2.21	0.00
Clothing(cotton)	84.01	10.50	567.05	220.52	10.50	0.00	168.01	0.00
Milk	48.42	4.22	3.65	0.61	2.79	2.22	2.58	1.36

Source : Central Statistical Organisation

Next we look at the pattern of consumption expenditure in the NorthEastern states. National Sample Survey has data on state-wise per capita consumption expenditure on major items for both rural and urban sectors. From this one can estimate total consumption expenditure by multiplying per capita expenditure with the state population. We are particularly interested in interstate disparities in consumption expenditure. First we compute a measure of disparity for 15 major states of India and then compare that with a measure of disparity for 8 NorthEastern states. The measure of disparity used in this study is known as the entropy, which is defined as follows :

$$(100 / \log N) \sum X_i \log ( 1/X_i )$$

where  $X_i$  is the i-th state's consumption share in the product under consideration, so that  $\sum X_i = 1$  and N is the number of states in the sample. If all states have an equal share, the entropy measure will be equal to 100 showing absolute equality in the distribution of consumption spending across states. The other extreme is absolute inequality in which one state in the sample gets all and the others get nothing in which case the entropy measure will be equal to zero.

**Table 3**  
**Interstate Disparity in Urban Consumption Expenditure, 1993-94**

	15 State Entropy	8 State Entropy for North-East
Cereals	93.2	69.9
Gram	91.0	34.8
Cereal Substitute	44.5	70.6
Pulses & Products	90.4	67.6
Milk & Products	92.0	66.7
Edible Oil	91.2	68.6
Meat, Egg, Fish	88.0	75.0
Vegetables	92.6	73.5
Fruits	90.2	58.7
Sugar	90.7	68.0
Salt	93.2	74.3
Spices	92.2	73.6
Beverages etc.	92.4	60.1

Pan, Tobacco & Intoxication	93.6	74.9
Fuel & Light	92.8	76.4
Clothing	92.8	66.8
Footwear	93.7	78.5
Misc. Goods & Services	92.3	70.3
Durable Goods	89.4	53.2

Source : Estimated from data provided by National Sample Survey

Table 3 shows interstate inequality measure in respect of urban consumption expenditure for the year 1993-94 for 15 major states (including Assam) and 8 North-Eastern separately. Since the value of the entropy is fairly high in both cases and in respect of most products, there is no evidence of any significant interstate disparity in consumption expenditure. It is however generally true that consumption disparity is higher in the NorthEast region than in 15 major states. With the exception of gram and cereal substitute, the pattern of disparity is the same<sup>4</sup> in the two samples, which indicates the fact that the consumption habit of the region is converging towards the Indian standard. We shall present more evidence of this convergence of consumption habits when we discuss the profiles of NorthEastern states. From the data presented so far the facts that emerge are that the consumption basket in the NorthEastern states is fairly diversified though greater diversification has taken place in 15 major states. However, the production pattern in the NorthEast is not based on specialization but on a notion of self-sufficiency. This finding is consistent with the hypothesis stated in the previous section that labour productivity in the region is low and the technology is backward.

### III State Profiles

NorthEast of India is not homogeneous. Many states such as Arunachal Pradesh and Sikkim are new and their development experience in the Indian union is short. Mizoram, Nagaland, Meghalaya and Arunachal Pradesh are dominated by tribal population. The states in the region also differ in terms of growth of per capita income and some states like Nagaland, Manipur and Tripura have not shown any growth during the decade of the nineties. Assam is the oldest state in the region and it has also shown signs of stagnation. The federal government has not yet developed an economic policy for the NorthEast. One also observes a lack of coordination between the national government and the state governments. A few studies have been done to look at the problems and prospects of the states in the region. For instance Wadia<sup>5</sup> has studied the forest resources in the region. A study by the Tata Consultancy Service<sup>6</sup> makes the point most exports from the region to the rest of the country are low value added primary goods and this leads to drainage of resources from the region through resources intensive

<sup>4</sup> The entropy measure is 20-30 points lower in the sample of 8 states in respect of all items except the two items mentioned in the text. This probably indicates that there is greater incidence of poverty in the NorthEastern region than in 15 major states.

<sup>5</sup> S. K. Wadia, "Prospects of Forest Development in N.E. India in T. Mathew (ed.) *N.E. Hill Region of India : Problems and Prospects of Development*, Agricole Publishing Academy, 1981.

<sup>6</sup> See *A Perspective Plan for NorthEastern Region, Phase I*, TCS Report, Shillong.

exports. A Planning Commission study shows the weakness of the banking system in the region resulting in low credit deposit ratio. There is some evidence in support of the suspicion that bank deposits of the region are being deployed elsewhere.<sup>7</sup> Finally a specific study on Nagaland has suggested a development strategy for the state.<sup>8</sup>

In the rest of the paper we want to look at the profile of each state separately. We shall focus on the state's share in national consumption expenditure on selected products and compare that with its share in national production. In addition to this we shall also compare the state's per capita consumption with the national average. Our main hypothesis is that the region is backward in production but not so backward in consumption resulting in dependence of these states on the rest of the country. Obviously, such dependence cannot continue for ever. Unless the production structure of the NorthEastern states is improved, they will soon face a severe economic crisis.

### III (A) ASSAM

Located in Brahmaputra River valley, Assam is surrounded by Bhutan and Arunachal Pradesh in the north, Nagaland and Manipur in the east, Mizoram and Tripura in the south and Meghalaya, Bangladesh and West Bengal in the west. It is the oldest and by far the most important state in the North East of India. The state is rich in natural resources like natural oil, natural gas, coal, rubber and minerals like granite, limestone and kaolin. It is also rich in forest resources. Assam is regarded as the gateway to North East as it has the best infrastructure in the region. Though industrially most developed among the states in the region, Assam is primarily agricultural with 74 % of the people engaged in agricultural and allied activities. Main cash crops are jute, tea, cotton, oilseeds, sugarcane, fruits and potatoes. Textile, cement and oil refining are the main industries. Table 4 provides the analysis of the production and consumption of main products in Assam in 1988-89 and 1993-94. The first two columns in the table give the state's share in national consumption expenditure in two years and it appears that Assam has maintained its relative position in national absorption of goods, particularly in the food products with a few exceptions such as milk in which its consumption share has declined. The third column shows the ratio between Assam's per capita expenditure and the national average per capita expenditure (the ratio has been multiplied by 100). In 7 out of 19 products reported in the table Assam's per capita consumption expenditure is higher than the national average. The fourth column gives Assam's share in the national production of selected items. It should be mentioned that consumption shares are computed from value figures. In other words, consumption shares are shares in total consumption expenditure at the national level for the relevant product. On the other hand, production is measured in metric tons and production shares are therefore computed from physical production of the relevant product in the state and its corresponding national total. Since shares are independent of the unit of measurement, we can compare the consumption and production shares for each product. Production data are not available

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<sup>7</sup> See *Transforming the NorthEast*, High Level Commission Report to the Prime Minister, Government of India. March 7, 1997.

<sup>8</sup> "Nagaland : A Trade Model of Growth", Association for Environment and Development Research. New Delhi, May 1999.

for all items in the table. This means that either the data are not reported or the state does not produce the product which is showing a blank in the fourth column. Assam's consumption share is higher than the corresponding production share for all products except edible oil and fruits. The last column shows the dependency index, which is simply the ratio between consumption share and production share multiplied by 100. Thus any item reporting a dependency index that is greater than 100 would indicate dependence of the state for that item. The table shows Assam's dependence for most of the products, which is rather surprising in view of the fact that the state has revealed comparative advantage for all these products in the region.

**Table 4**  
**Assam**

Items	1993-94 Consumption Shares (%)	1988-89 Consumption Shares(%)	1993-94 Per Capita Consumption Relative to Indian Average	1993-94 Production Shares (%)	1993-94 Dependency Index
Cereals	3.8	3.7	143.60	2.51	151.60
Gram	2.5	1.9	92.90	0.03	8756.79
Cereal Substitute	0.2	0.2	6.70	0.15	129.35
Pulses & Products	2	2.2	76.50	0.44	459.64
Milk & Products	1.5	2.0	57.70		
Edible Oil	2.3	2.0	85.10	2.83	81.19
Meat, Egg, Fish	6.5	5.3	243.60		
Vegetabl es	3.1	3.2	117.80		
Fruits	2.2	1.8	83.20	2.56	86.02
Sugar	2	2.1	75.80	0.73	274.17
Salt	3.6	3.6	134.90		
Spices	1.6	1.7	62.20	0.56	288.15
Beverage s etc.	2.8	2.6	105.90		
Pan, Tobacco & Intoxicati on	4.6	3.8	175.20	0.74	618.70
Fuel & Light	2.4	2.7	88.80		
Clothing	2.6	2.3	97.80	0.01	34814.00
Footwear	2.9	1.9	108.80		
Misc. Goods & Services	2.2	2.1	82.00		
Durable Goods Higher than Indian	1.8	0.9	69.20		

Average (No.)

7.00

Source : National Sample Survey and Central Statistical Organisation.

### III (B) MANIPUR

Bounded by Nagaland in the north, Mizoram in the south, Upper Myanmar in the east and Cachar district of Assam in the west, Manipur is known for natural beauty and splendor. The state is essentially agricultural. The main industries are pharmaceuticals, steel re-rolling, plywood, bamboo chipping, cement, vanaspati and electronics. Manipur is well connected by air and road transport but deficient in railway facility. The traditional occupation of the people is related to logging, cash crops, handloom, handicraft, weaving and pisciculture. The state is endowed with a poor infrastructure and its per capita income growth is much lower than the national growth rate in recent years. Table 5 illustrates the problem of slow growth. The first two columns giving Manipur's consumption shares in two years shows a decline during the period for most items of consumption. Per capita consumption in Manipur is higher than the national average only in respect of 5 out of 19 items. Due to the non-availability of comparable production data production shares are computed for only a few items. Except in the cases of cereal substitute and fruits Manipur shows dependence. Lack of industrialization is the main cause of slow income growth. The state needs infrastructure development before any viable process of industrialization can begin.

**Table 5**  
**Manipur**

Items	1993-94 Consumption Shares(%)	1988-89 Consumption Shares(%)	1988-89 Per Capita Consumption Relative to Indian Average	1993-94 Production Shares(%)	1993-94 Dependency Index
Cereals	0.39	0.42	195.27	0.25	153.45
Gram	0.01	0.14	63.46		
Cereal Substitute	0.01	0.03	12.50	0.0749	9.66
Pulses & Products	0.11	0.21	98.18		
Milk & Products	0.03	0.04	16.55		
Edible Oil	0.11	0.10	47.03	0.0328	326.03
Meat, Egg, Fish	0.34	0.36	163.57		
Vegetable s	0.15	0.17	76.85		
Fruits & Nuts	0.05	0.05	23.81	0.1453	33.52
Sugar	0.09	0.09	41.30		
Salt	0.28	0.42	192.86		
Spices	0.15	0.14	65.49	0.0565	273.21
Beverages	0.07	0.05	23.42		

etc.					
Pan,	0.25	0.28	128.41		
Tobacco & Intoxicatio n					
Fuel & Light	0.19	0.20	90.17		
Clothing	0.06	0.12	55.53	0.0009	5946.31
Footwear	0.28	0.58	269.29		
Misc.	0.11	0.07	32.79		
Goods & Services					
Durable Goods	0.03	0.03	14.87		
Higher than Indian Average(No.)			5.00		

Source : Same as in table 4.

### III(C) MEGHALAYA

Meghalaya is known as a fruit growing state and the major fruit crops are : orange, pineapple, banana, jackfruit, plum, pear and peach. Rice and maize are the major food crops. Shillong, the capital of the state, is a tourist spot. There are some small and medium scale industries apart from tourism. But transport isolation is a bottleneck because there is no railway linkage and road and air transport is not very well developed. The state is endowed with some important minerals like coal, limestone and granite, but these are mostly extracted and sold outside the state leaving the state with low value addition. Meghalaya seems to have potentials for agro-based and horticultural industries, but in the absence of an infrastructure in transport and marketing, the future does not look very bright. All this is reflected in the low per capita income of the state and its economic backwardness relative to the rest of the country. Table 6 shows that Meghalaya's record in maintaining consumption standard is slightly better than what we have seen in the case of Manipur. The state's consumption share has increased moderately in the case of some items during 1988-94 and it exhibits per capita consumption expenditure higher than the national average in the cases of 7 items. The production shares are also on the high side compared to Manipur and as a result the dependency index is not very high. The position of the state in respect of fruit and spices is quite comfortable. Literacy rate in Meghalaya is 49% and the urbanization rate is the second highest in the region. With English as the administrative language the state has tremendous potentials in tourism, services and various agro-based industries. But in order that these industries become cost-effective, road transport needs improvement. An extension of the railway lines would also be very useful.

**Table 6**  
**Meghalaya**

Items	1993-94 Consumption Shares(%)	1988-89 Consumption Shares(%)	1988-89 Per Capita Consumption Relative to Indian Average	1993-94 Production Shares(%)	1993-94 Dependency Index
Cereals	0.271	0.28	131.39	0.09	310.52
Gram	0.015	0.05	25.00	0.01	
Cereal Substitute	0.084	0.00	0.00	0.22	38.82
Pulses & Products	0.122	0.14	67.88	0.02	
Milk & Products	0.133	0.18	84.48		
Edible Oil	0.207	0.17	78.83	0.08	252.35
Meat, Egg, Fish	0.749	0.72	343.14		
Vegetabl es	0.300	0.27	128.57		
Fruits & Nuts	0.111	0.12	59.52	0.66	16.95
Sugar	0.171	0.19	91.30		
Salt	0.243	0.32	153.57		
Spices	0.156	0.11	52.60	0.78	19.90
Beverage s etc.	0.291	0.18	84.59		
Pan, Tobacco & Intoxicati on	0.806	0.52	246.27	0.31	260.12
Fuel & Light	0.212	0.23	111.66		
Clothing	0.242	0.20	93.82	0.05	479.48
Footwear	0.193	0.49	235.83		
Misc. Goods &	0.212	0.21	99.68		

Services			
Durable	0.049	0.08	36.89
Goods			
Higher than Indian Average(NO.)			7.00

Source : Same as in table 4.

### III(D) MIZORAM

The hill state of Mizoram was born in 1987 and it is one of the youngest state in the Indian union. The terrain is not very suitable for a viable transport network as the area is covered by steep hill ranges separated from one another by narrow valleys. Agriculture is the main occupation of the people as 70% of them are engaged in agricultural activities. Other occupations are related to handloom and handicrafts. The state per capita income is higher than the national average primarily due to Central Government Assistance which, as it appears from table 7, is used to maintain the consumption standards. A comparison of the first two columns of the table shows that the state is by and large maintaining its consumption shares. In 8 out of 19 products its per capita consumption expenditure is higher than the per capita consumption expenditure of the country. The level of dependence is not very high in minor products but it shows dependence in major products such as cereals, edible oil and clothing. Mizoram does not exhibit revealed comparative advantage significantly in any product except clothing. Because of the difficulty in transportation of goods from Mizoram to the other of the country, the future of Mizoram lies in trade with the neighbouring areas, particularly Bangladesh and Myanmar with whom the state shares its border. Mizoram has the highest literacy rate in the region, which is perhaps the biggest asset the state has in its possession.

**Table 7**  
**Mizoram**

Items	1993-94 Consumption Shares(%)	1988-89 Consumption Shares(%)	1988-89 Per Capita Consumption Relative to Indian Average	1993-94 Production Shares(%)	1993-94 Dependency Index
Cereals	0.10	0.08	97.41	0.07	149.30
Gram	0.03	0.03	38.46		
Cereal Substitute	0.03	0.02	18.75	0.14	21.91
Pulses & Products	0.07	0.10	126.93	0.08	
Milk & Products	0.05	0.05	65.95		
Edible Oil	0.07	0.07	81.34	0.03	255.25
Meat, Egg, Fish	0.33	0.27	330.59		
Vegetables	0.17	0.19	233.73		
Fruits & Nuts	0.05	0.05	63.55	0.15	30.99
Sugar	0.09	0.10	126.11		
Salt	0.23	0.27	328.57		
Spices	0.05	0.05	60.08	0.22	20.50

Beverages etc.	0.05	0.04	54.10		
Pan, Tobacco & Intoxication	0.21	0.22	275.65	0.56	37.71
Fuel & Light	0.15	0.17	205.83		
Clothing	0.12	0.05	62.25	0.02	627.00
Footwear	0.33	0.43	525.98		
Misc. Goods & Services	0.07	0.04	55.16		
Durable Goods	0.04	0.02	27.01		
Higher than Indian Average(NO.)			8.00		

Source : Same as in table 4

### III(E) NAGALAND

A few recent studies on Nagaland's economy are available.<sup>9</sup> Nearly all of Nagaland is mountainous and 1/6 th. of land is under forest cover. In spite of monsoon climate and fertile soil cultivation is difficult. Jhum cultivation and terraced wet rice cultivation are widely practiced in the state and about 73% of the population is engaged in agriculture. Literacy rate, particularly female literacy rate in Nagaland is very high. But hardly any industrial activities are conducted in the state. The growth rate of state domestic product is much below the Indian average growth rate and the per capita income is much below the national level. Agriculture, forestry, fishing and logging constitute almost the entire economy. Rice and maize are the major crops. Nagaland is characterized by absence of markets and wholesale dealers. All industrial units are concentrated around Kohima and Dimapur. The main exports transacted at Dimapur are cotton, jute, timber, forest produce, chilies and mustard seeds. Financial services in the state are grossly inadequate. In our sample Nagaland shows an alarming picture so far as the consumption of food products is concerned. Its consumption shares have dropped in the case of all products except cereals during 1988-94. But since the state's consumption shares were initially high, in 12 out of 19 products Nagaland's per capita consumption are found to be above the national average. With low production shares the state shows high level of dependence.

**Table 8**  
**Nagaland**

Items	1993-94 Consumption Shares(%)	1988-89 Consumption Shares(%)	1988-89 Per Capita Consumption Relative to Indian Average	1993-94 Production Shares(%)	1993-94 Dependency Index
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<sup>9</sup> See for instance "Nagaland : A Trade model of Growth" op. cit.

Cereals	0.24	0.22	153.89	0.13	182.87
Gram	0.03	0.03	21.15	0.03	93.86
Cereal Substitute	0.00	0.00	0.00	0.36	0.00
Pulses & Products	0.10	0.13	89.34	0.08	133.15
Milk & Products	0.07	0.10	72.81		
Edible Oil	0.09	0.14	97.49	0.14	69.05
Meat, Egg, Fish	0.53	0.68	473.84		
Vegetables	0.22	0.24	168.76		
Fruits & Nuts	0.09	0.15	101.47	0.02	379.96
Sugar	0.11	0.13	89.42		
Salt	0.29	0.35	242.86		
Spices	0.10	0.15	102.49	0.07	131.99
Beverages etc.	0.12	0.21	145.30		
Pan, Tobacco & Intoxication	0.36	0.61	423.86		
Fuel & Light	0.17	0.19	130.47		
Clothing	0.08	0.36	248.61	0.00	8158.52
Footwear	0.26	0.41	283.46		
Misc. Goods & Services	0.14	0.24	170.00		
Durable Goods	0.05	0.12	84.34		
Higher than Indian Average(NO.)			12.00		

Source : Same as in table 4.

### III(F) SIKKIM

Sikkim, one of the highest regions of India, is bounded on the north and northeast by Tibet, on the south east by Bhutan, on the south by west Bengal and on the west by Nepal. It is perhaps the most mountainous state with one third of land covered by dense and inaccessible forest. Population of Sikkim is mostly rural with Gangtok as its largest town. Sikkim is a multi-ethnic state with 70% of its population having Nepalese origin along with many tribal groups such as Lepcha and Bhutia. Density of population is very low and the literacy rate is above the Indian average. Only about 11% of the state's area is under cultivation which is the occupation of 58% of the people. The principal crops are : Maize, rice wheat, potato, large cardamom, ginger and orange. The state's industrial activities are concentrated in the area of fruit jams and juices, bakery products, beer, plastic goods, wrist watches and leather goods. Traditional handicrafts and tourism are also important. Various development programmes started in the state during the last decade have raised wage employment opportunity. This is perhaps the reason why the state has by and large maintained its consumption shares during 1988-94. But its consumption shares are low resulting in only 7 out of 19 products in which Sikkim's per capita consumption is above the national level. Non-availability of production data is the reason why we could not compute the dependency index. Table 9 presents whatever could be obtained from the data.

**Table 9**

<b>Sikkim</b>			
Items	1993-94 Consumption Shares(%)	1988-89 Consumption Shares(%)	1988-89 Per Capita Consumption Relative to Indian Average
Cereals	0.054	0.04	87.93
Gram	0.045	0.03	59.62
Cereal Substitute	0.000	0.00	0.00
Pulses & Products	0.036	0.04	78.12
Milk & Products	0.048	0.05	96.78
Edible Oil	0.048	0.05	97.41
Meat, Egg, Fish	0.085	0.09	185.08
Vegetables	0.062	0.07	143.03
Fruits & Nuts	0.033	0.02	38.28
Sugar	0.035	0.03	66.21
Salt	0.043	0.05	103.57
Spices	0.038	0.03	55.51
Beverages etc.	0.079	0.03	56.90
Pan, Tobacco & Intoxication	0.078	0.05	105.03
Fuel & Light	0.047	0.06	119.59
Clothing	0.033	0.02	38.63
Footwear	0.051	0.10	213.78
Misc. Goods & Services	0.062	0.06	115.61
Durable Goods	0.010	0.01	10.56
Higher than Indian Average(NO.)			7.00

Source : Same as in table 4.

### III(G) TRIPURA

Bangladesh surround Tripura on all sides, while it has borders with Assam and Mizoram in the east. Originally a princely state and later a union territory, Tripura achieved statehood in 1972. Population is partly tribal but predominantly Bengali. The economy of the state is dominated by agriculture, which absorbs 64% of workers and accounts for 48% of state gross domestic product. Main crops are Paddy, wheat, jute, potato, sugarcane and oilseeds. Tourism is recently growing as an industry and handicraft has good potentials. But the state's geographical isolation has hindered its industrialization. Its per capita income is stagnant and below the national level. In Table 10 Tripura shows a very high level of dependence and falling consumption shares. Since the shares in consumption are initially on the high side, Tripura's per capita consumption is higher than the national average in 10 out of 19 products reported in the table.

**Table 10**  
**Tripura**

Items	1993-94 Consumption Shares(%)	1988-89 Consumption Shares(%)	1988-89 Per Capita Consumption Relative to Indian Average	1993-94 Production Shares(%)	1993-94 Dependency Index
Cereals	0.474	0.56	172.50	0.32	146.49
Gram	0.000	0.11	34.62	0.01	0.00
Cereal Substitute	0.119	0.29	87.50	0.02	731.70

Pulses & Products	0.220	0.27	83.03	0.05	442.44
Milk & Products	0.202	0.36	111.41		
Edible Oil	0.300	0.35	108.45	0.15	197.18
Meat, Egg, Fish	1.087	1.55	474.59		
Vegetables	0.439	0.50	153.70		
Fruits & Nuts	0.246	0.35	107.51	1.05	23.30
Sugar	0.210	0.28	86.86		
Salt	0.553	0.54	164.29		
Spices	0.262	0.31	93.76	0.11	234.34
Beverages etc.	0.196	0.26	79.32		
Pan, Tobacco & Intoxication	0.604	0.72	222.40	0.06	974.80
Fuel & Light	0.357	0.43	131.19		
Clothing	0.372	0.20	59.88	0.01	2489.59
Footwear	0.475	0.33	100.00		
Misc. Goods & Services	0.304	0.31	94.41		
Durable Goods	0.212	0.12	36.66		
Higher than Indian Average(NO.)			10.00		

Source : Same as in table 4.

### III(H) ARUNACHAL PRADESH

Located in the farthest point in the NorthEastern part of India Arunachal Pradesh is perhaps the most backward of all the states in the region in terms of infrastructure with the lowest density of population and also the lowest literacy rate. The state shares its border with Bhutan in the west, China in the north and northeast. Myanmar in the east and southeast and Assam is in its south. Though the biggest in terms of land area Arunachal has no railway linkage and is accessible through air and road transport. Known for its endowment of forest resources, Arunachal has the highest per capita income in the region and it is also above the national average per capita income. The occupation of a large section of its population is linked to forestry and 75% of the workforce is engaged in shifting cultivation. The main crops are rice, maize, millet, wheat and mustard. A growing tertiary sector and some forest-based industries absorb the rest of its workforce. The state has considerable tourist potentials, which can be exploited only if a transport network is established. The data for 1988-89 are not available. Table 11 provides consumption and production shares for 1993-94. The state's consumption shares are on the high side and as a result its per capita consumption is higher than the national level in 11 out of 19 products. Dependency is not very high.

**Table 11**  
**Arunachal Pradesh**

Items	1993-94 Consumption Shares(%)	1993-94 Per Capita Consumption Relative to Indian Average	1993-94 Production Shares(%)	1993-94 Dependency Index
Cereals	0.13	128.78	0.11	119.15
Gram	0.22	210.71		
Cereal Substitute	0.00	0.00	0.65	0.00
Pulses & Products	0.11	107.04	0.04	270.27
Milk & Products	0.08	82.35		
Edible Oil	0.11	108.01	0.41	26.88

Meat, Egg, Fish	0.35	346.01		
Vegetables	0.17	165.96		
Fruits & Nuts	0.08	75.27	0.16	47.94
Sugar	0.07	64.07		
Salt	0.17	165.08		
Spices	0.09	92.26		
Beverages etc.	0.07	66.46		
Pan, Tobacco & Intoxication	0.23	220.67		
Fuel & Light	0.14	137.18		
Clothing	0.15	146.15		
Footwear	0.23	228.16		
Misc. Goods & Services	0.06	61.99		
Durable Goods	0.06	62.76		
Higher than Indian Average(NO.)		11.00		

Source : Same as in table 4.

#### **IV Summary and Conclusions**

An attempt has been made in this paper to analyse the production and consumption patterns of eight states in the NorthEastern region of India. The recent trend towards the globalization of the Indian economy has not touched this region because the markets are either non-existent or weak. The result is economic isolation largely due to the absence of transport and marketing network. The entire region is agricultural and there are some very important mineral resources. Forestry and forest related products are extremely important in all the states. In most of these states the economic potentials exist in agro-based industries. Tourism is the other area where the states can exploit their natural potentials. There is an urgent need to establish an elaborate network of rail and road transport. This would require a substantial amount of public investment. But before that happens the states may look for opportunities for greater amount of trade within the region and with the neighbouring countries such as Bangladesh, Myanmar and Bhutan. The initiative must come from the Central Government in the form of establishment of export processing zones in the region and provision of other export facilities. So far as the present status is concerned, all the states in the NorthEast are heavily dependent on the rest of the country. In many states consumption standards are being maintained through central transfers which will not be viable in the long run. In general, the lack of income generation has resulted in falling consumption shares in most states. It is very likely that poverty and inequality have increased and this trend will continue unless the people are involved in value-adding production processes converting the resources of the region into final goods that are sold in the rest of India or exported to the countries having common borders with the states. High rates of literacy in the region, particularly female literacy, are being wasted now. Our study shows that there is a great of commonality in the problems faced by all states, which calls for an integrated scheme of development of the NorthEastern region. Such a scheme will explore the areas of comparative advantage in the states and plan for the establishment of an elaborate system of transport and marketing network.

Economic development in the NorthEastern region has to be considered in the light of the concept of sustainable development. Industrialization of a very large part of India has resulted in a considerable damage to the environment. All the major cities of India are reporting large scale air and water pollution. Even the ground water has developed toxicity as a result of the dumping of untreated chemicals. Indian agriculture poses a similar problem. Population pressure has resulted in intensive cultivation in most part of the country and multiple cropping has become the new mode of cultivation, particularly in Punjab and parts of Uttar Pradesh. The effect of green revolution on the soil quality has been disastrous. Large scale use of chemical fertilisers has not only reduced the reproductive power of the soil but the use of deep tube wells has depleted the underground water causing salinity and other problems. There is no doubt that land productivity has been declining in the recent years.<sup>10</sup> The effect of this on the per capita net availability of food grains is being assessed now. According to one estimate<sup>11</sup> the growth rate of per capita net availability of food grains (grams per day) during 1991-99 has been negative for all food grains : -0.75 for rice, -.0068 for wheat, -1.24 for other cereals, -0.89 for cereals, -0.58 for gram, -0.75 for pulses and -0.88 for food grains as a whole. The NorthEastern region has a specific advantage over the rest of India in having a pure and untarnished environment. What is required is the globalization of the region so that it can find the avenues for exploiting its potentials without worrying much about the damage that globalization is likely to cause to its environment at this stage. The time has come for us to think about relocation of industrial and agricultural activities in order to minimize the damage to the environment. An economic policy for the NorthEast has to take this environmental consideration in to account as a part of the overall policy of sustainable development.

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<sup>10</sup> See Majid Hussain, "Socio-Economic Implications of Agricultural Development in India", paper presented in the national seminar on "Implications of Globalization on the Indian economy", 1-2 March, 2001, Department of Economics, Jamia Millia Islamia, New Delhi.

<sup>11</sup> See table 3 of Shahid Ahmed, "Emerging Economic Scenario and Food Security in India", paper presented in the seminar mentioned above.

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