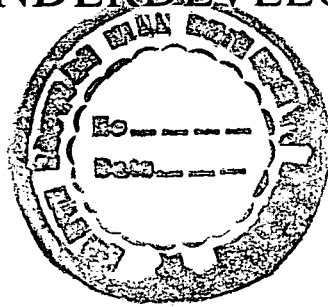


REGIONAL DEVELOPMENT OF THE NORTH  
EASTERN REGION OF INDIA: EXPORT BASE  
THEORY, GOVERNMENT POLICY  
AND UNDERDEVELOPMENT



A Dissertation

SUBMITTED IN FULFILMENT OF THE REQUIREMENT  
FOR THE DEGREE OF

DOCTOR OF PHILOSOPHY

**ANUP SAIKIA**

To

THE DEPARTMENT OF GEOGRAPHY  
SCHOOL OF HUMAN AND ENVIRONMENTAL SCIENCES  
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SHILLONG

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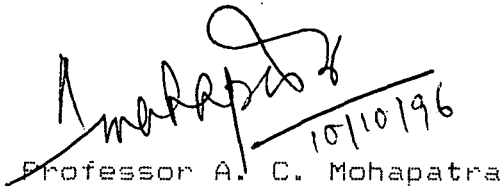


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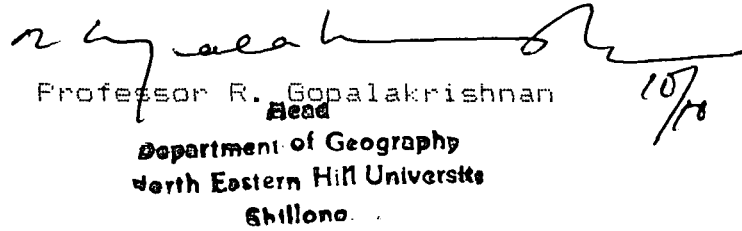
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Dated September 1996.

For Ma & Papa

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The usual disclaimers apply.

A handwritten signature in black ink, appearing to read 'Anup Saikia', with a stylized flourish at the end.

09.09.1996.

( Anup Saikia )

## CONTENTS

	Page Nos.
Acknowledgements	i
List of Maps	iii
List of Tables	iv
List of Diagrams	vi
List of Abbreviations	vii
CHAPTER I : INTRODUCTION	1 - 39
CHAPTER II : LITERATURE SURVEY	40 - 70
CHAPTER III : DATABASE AND METHODOLOGY	71 - 87
CHAPTER IV : EVOLUTION OF THE REGIONAL ECONOMY	88 - 109
CHAPTER V : THE CURRENT ECONOMY : STRUCTURE OF NORTH EAST INDIA	110 - 149
CHAPTER VI : LEVELS OF REGIONAL DIFFERENTIATION	150 - 167
CHAPTER VII : EXPORT BASE DEVELOPMENT OR FAILURE	168 - 245
CHAPTER VIII : CENTRAL GOVERNMENT POLICY AND UNDERDEVELOPMENT	246 - 281
CHAPTER IX : SUMMARY OF CONCLUSIONS	282 - 300
BIBLIOGRAPHY	301 - 311

## List of Maps

after page

Map No.1	Location of Districts	8
Map No.2	Levels of Resource Base	151
Map No.3	Levels of Agricultural Development	153
Map No.4	Levels of Infrastructure	155
Map No.5	Levels of Industrial Development	157
Map No.6	Overall Levels of Development	160
Map No.7	Levels of Result of Development	164
Map No.8	Levels of Process of Development	165
Map No.9	Levels of Potential for Development	166

## LIST OF TABLES

	Page Nos.
5.1. Area Under HYV Crops in NER States	113
5.2. Fertilizer Consumption per Hectare of Cropped Area	114
5.3. Proportion of Irrigated Area to Total Cropped Area	115
5.4. Yield of Rice 1972-73 to 1982-83	116
5.5. Small Scale Industries in NER	118
5.6. Basic Characteristics of Major Large Industries, 1974-75	120
5.7. Economic Classification of Working Population, 1971	121
5.8. Road Length in NER (as on 1.3.1979)	125
5.9. Credit Deposit Ratios of Scheduled Commercial Banks, June, 1978	128
5.10. Area Under HYV Crops in NER	130
5.11. Fertilizer Consumption, 1989-90 to 1992-93	132
5.12. Comparative Increase in Fertilizer Consumption	133
5.13. Area Under Irrigation 1990-91	134
5.14. Yield of Rice 1990-91 to 1993-94	136
5.15. Industrial Data of NER 1992-93	137
5.16. SSI Units in NER vis-a vis All India : March 1988	137
5.17. Economic Classification of Working Population, 1991	138
5.18. Per Capita Income at 1980-81 Prices	141
5.19. Index of Development Infrastructure	141
5.20. Road Length on NER (as on 31.3.1992)	143
5.21. Number of Commercial Bank Offices	145
6.1. Principal Component Scores for the Resource Base Sector	151
6.2. Principal Component Scores for the Agricultural Sector	153
6.3. Principal Component Scores for the Infrastructural Sector	156
6.4. Principal Component Scores for the Industrial Sector	157
6.5. Levels of Overall Development	160
6.6. Composite Index Score	162
6.7. Results of Development	164
6.8. Process of Development	165
6.9. Potential for Development	166
7.1. Oil Production in Assam and All India	174
7.2. Refining Capacity of Indian Refineries, 1980-81 to 1992-93	177
7.3. Gross Production of Natural Gas in India	180
7.4. Proven and Balance Recoverable Reserves of Natural Gas	181
7.5. Production and Utilisation of Natural Gas in Assam	182
7.6. Natural Gas Production and Flaring in Assam and Gujarat	183
7.7. Area Under Tea and Tea Production 1951-91	197
7.8. Profits of Some Tea Companies in Assam: 1976	208
7.9. Profits of Industrial Groups in India	209
7.10. Volume of Vehicular Traffic at Entry/Exit Points of NER by Road	217

7.11.	Volume of Vehicular Movement at Srirampur, Durma Check Post, 1989-90 to 1993-94	218
7.12.	Regional Import-Export of Wood and Wood Products from NER	219
7.13.	Outflow of Timber etc. from NER.	222
7.14.	Import and Export of Teak form the NER 1993-94	229
7.15.	Destination of Teakwood Exports from NE States 1993-94	230
7.16.	Import Export of Other Timber from the NER 1993-94	231
7.17.	Import Export Differential of Other Timber from the NER	232
7.18.	Destination of Other Timber Exports	233
7.19.	Volume of Timber Carried by Road, Rail and River	235
7.20.	Value of Timber Exported	235
8.1.	Per Capita Plan Outlays: Assam and All India	250
8.2.	Criteria for Sharing of Income Tax	252
8.3.	Share of Income Tax of NER	253
8.4.	Share of Union Excise Duties of the NER	256
8.5.	Reimbursements Made Under Central Investments Subsidy Scheme	260
8.6.	Reimbursements Given Under the Transport Subsidy Scheme	263
8.7.	Disbursements Made Under the Transport Subsidy Scheme	266
8.8.	Letters of Intent and Industrial Licences Issued to No Industry Districts	268
8.9.	Letters of Intent and Industrial Licences Issued to Backward Areas	268
8.10.	Industrial Investments Proposed in the NER (1991-94)	269
8.11.	Distribution of Assets of Public Sector Undertakings in NER	270
8.12.	Investments Intentions Before and After the New Industrial Policy	272
8.13.	Cumulative Assistance Sanctioned by Non Bank Financial Institutions	272
8.14.	Credit Deposit Ratios	273

## List of Diagrams

Diagram No.		After Page
1	: Fertilizer Consumption 1974-75 to 1977-78	113
2	: Fertilizer Consumption 1989-90 to 1992-93 per hectare of Cropped Area.	131
3	: Percentage Variation in Fertilizer Use 1974-75 to 1977-78 and 1989-90 to 1992-93.	132
4	: Refining Capacities of Refineries.	177
5	: Flaring of Natural Gas 1970-71 to 1992-93.	183
6	: Value of Timber Exported.	235
7(a)	: Union Excise Duties Share of NER.	254
7(b)	: Income Tax Allocation to NER.	254
8	: Central Investment Subsidy Scheme Reimbursements to NE States.	259
9	: Credit Deposit Ratios.	273

## List of Abbreviations

AIDC	: Assam Industrial Development Corporation
ATC	: Assam Tea Corporation
BRPL	: Bongaigaon Refinery and Petrochemicals Limited
CISS	: Central Investment Subsidy Scheme
CMIE	: Centre for Monitoring Indian Economy
EPW	: Economic and Political Weekly
GRI	: Geographical Review of India
GTAC	: Gauhati Tea Auction Centre
LOI	: Letter of Intent
NEC	: North Eastern Council
NEG	: North Eastern Geographer
NER	: North Eastern Region
NGJI	: National Geographic Journal of India
SSI	: Small Scale Industries
TSS	: Transport Subsidy Scheme

## CHAPTER I

### INTRODUCTION

#### 1.1. Statement of the Problem

The debate on development, its patterns processes and consequences has become a common theme of discussion among scholars, planners and politicians alike. This passionate issue ~~that~~ has captured the human mind since World War 2. Ironically few of its conceptual cobwebs have got removed by such attention and there is still no unanimity as to its being an objectively defined concept or a concept prone to subjective value orientations. Its social and spatial articulations have only added new dimensions and complexities to the already existing confusion. Some of the new areas are those relating to the historical process of development and underdevelopment and inequalities in the spread of the former.

Regions do not spread evenly on the plane of economic development. Some regions are far ahead, others lag behind. These differences in rates of economic development occur as a result of a multitude of factors ranging from the more basic ones : possession of differential endowments, potentialities and resources; to more complex factors : historico-politico influences, the level of cultural development of a society, the type of economic activity and the relations of production. It is difficult to isolate the exact mix of factors that often act as an accelerator to development. Yet glaring disparities among

regions is a global phenomena experienced to varying degrees by the North and South.<sup>1</sup> However, the differentiating element in this problem is that whereas in the developed countries while all the inhabitants are assured a standard quality of life and the problem is one of concern for the lagging regions just to 'catch-up' with the leading regions; in the developing countries the issue for the lagging regions is to be provided with basic levels of subsistence<sup>2</sup>, in addition to the removal of regional imbalances and disparities in the levels of development achieved.

Regional imbalances are often compounded by a sort of 'preference' for development to align with the leading regions; a scenario in which the rich regions get richer and the poor regions get poorer as a result of the operation of what has been called a circular growth process or cumulative causation<sup>3</sup>, which as Myrdal explains, results due to the concentration of historical and natural processes of growth in the already developed regions making them richer and relegating the lagging regions to lower levels. This results due to the tendency of skilled labour, entrepreneurs, capital, banking etc. to migrate to developed regions in search of better opportunities thereby setting in motion a circular growth process of more investment, more income and more savings influencing more investments into the developed region. This causes a reverse or retarding process getting entrenched into the system in the backward regions.

When around the middle of the present century most countries achieved political independence, the attention of planners and academicians alike were turned to understanding, analysing and prescribing for the South, the most suitable and seemingly appropriate policies by which they could attain economic independence and thereby provide a more meaningful social, cultural and economic life for their burgeoning populations. It was found that a close relationship seemed to exist between poverty and the status of being an erstwhile colony, a relationship noticed not only among the newly independent countries of Afro-Asia but also among countries of Central and South America which became politically independent in the first quarter of the nineteenth century, a common factor which became instrumental in regarding these countries as 'under-developed'.<sup>4</sup>

One set of theorists that developed around this time was that of the Dependency School<sup>5</sup>, their philosophy being that the main reason for the present day Third World countries being in a state of underdevelopment was not because these countries were intrinsically 'under'-developed, but because of the role played by the developed countries of the occident in the recent past whereby these developing countries or pre-capitalist societies were incorporated into the world capitalist system. As a result the economies of these traditional societies got manipulated and their traditional basis of industrialisation, however, rudimentary, got crippled, their generally rich resource

base of natural resources/raw material were exploited and the surplus thus generated were used to develop the colonising countries. Thus development of one part of the world system was achieved at the cost of bringing about underdevelopment to these traditional economies and societies existing at pre-capitalistic stages of development.

The proponents of this approach held that although capitalism in the strict sense of the term had disappeared in the post IIInd World War scenario, the developed realm was, in fact, continuing to underdevelop the Third World by linkages with the global capitalist market and administering measured doses of developmental impulses for 'diffusion' to the latter; and in reality the development had "become the development of underdevelopment, where diffusion was the mechanism of dependency or imperialism".<sup>6</sup>

Despite rapid changes in the world economy, including high economic growth rates some Asian tigers have achieved, an analysis of underdevelopment is as valid a task today as before<sup>7</sup>, and the theory can like most perspectives and conceptualisations, be applied to specific situations. When India was incorporated into the colonial mode of production<sup>8</sup> and into the world capitalist economy after the British secured their trade foothold in Bengal and consolidated it into empire, the colonial economy was subjugated and subordinated to British colonial interests and

India was transformed into a supplier of raw material and a huge market for British textiles.

Along with this, different regions of the sprawling Indian sub-continent, then including India, Pakistan and Bangladesh, came under colonial purview, simultaneously of course - for bringing such a large country with the massive geographical dimensions the sub-continent possessed at the time was no mean task, even to the enterprising methods of the British colonial government mechanism. Thus different region were slowly but surely absorbed into the capitalist system, naturally the spatially peripheral areas tended to be relatively late entrants into the colonization scheme.

The country's north eastern region (NER) was one such case, being peripherally located as it was at the north eastern extremity of India. Moreover inhabited as it was by ethnic groups at different levels of technology and encapsulated in social structures which had not been monetized at all or only extremely marginally so, along with being one of the least accessible areas of the country did not encourage the mercantile interests of the British. The NER then entered the capitalist ambit only in the post 1826 period, relatively late in terms of the rest of the country's colonial experience. Yet this region was strongly influenced by capitalist impulses in all its spheres - economic, social and cultural-and is today, at least culturally and socially one of the regions of India that is quite strongly

`westernized'; the languages, script, religion, dress and food habits of several of the hill states being an attestation to this.

The region is one of the least developed parts of the country and this developmental dwarf of a region has also proved to be one of most troubled parts of the country, attributable at least partly to the disparities in the levels of development between the region and its immediate externality : the rest of India.

At least a part of this developmental dwarfing can be explained by the skewed process it underwent during colonial times, wherein British interests in some extractive sectors of the economy resulted in concentration of investment and labour in some areas ; at the cost of disintegration of the existing socio-economic structures, which were traditional, not fully monetized and unable to sustain the pressure policies initiated by the colonist government. While the plantation sector was `developed', the agricultural peasants were forced out of their lands through processes of hiking up the land revenue and a policy of opening up retail outlets for opium sale. The entire economy was geared toward meeting the needs of the plantation sector : capital, labour, infrastructural investments all focussed on the tea garden economy from whcih the British sought to make profits. Thus an enclave of development was superimposed on the region's generally traditional, agricultural structure and the latter by

being starved of developmental and fiscal attention was further pauperised and occupied the lower rings of the developmental ladder. The roots of regional imbalances, polarized development amidst general backwardness are to be found in the brief century and a quarter of British politics in the NER.

As to how far the patterns of colonial development persists till today, if at all, is an issue that requires analysis. The colonial emphasis on specific export sector would have been altered by planning policies and most countries, particularly developing ones, consciously attempt to direct their economic paths along specific routes to development through a set of plans and policies. In this regard India has been among the fore runners. Special policies have been made for lagging behind problem area and the NER has had its share of the planning cake. Thus regional and historical development/underdevelopment must be seen in the light of post independence policies.

### 1.2. Objectives

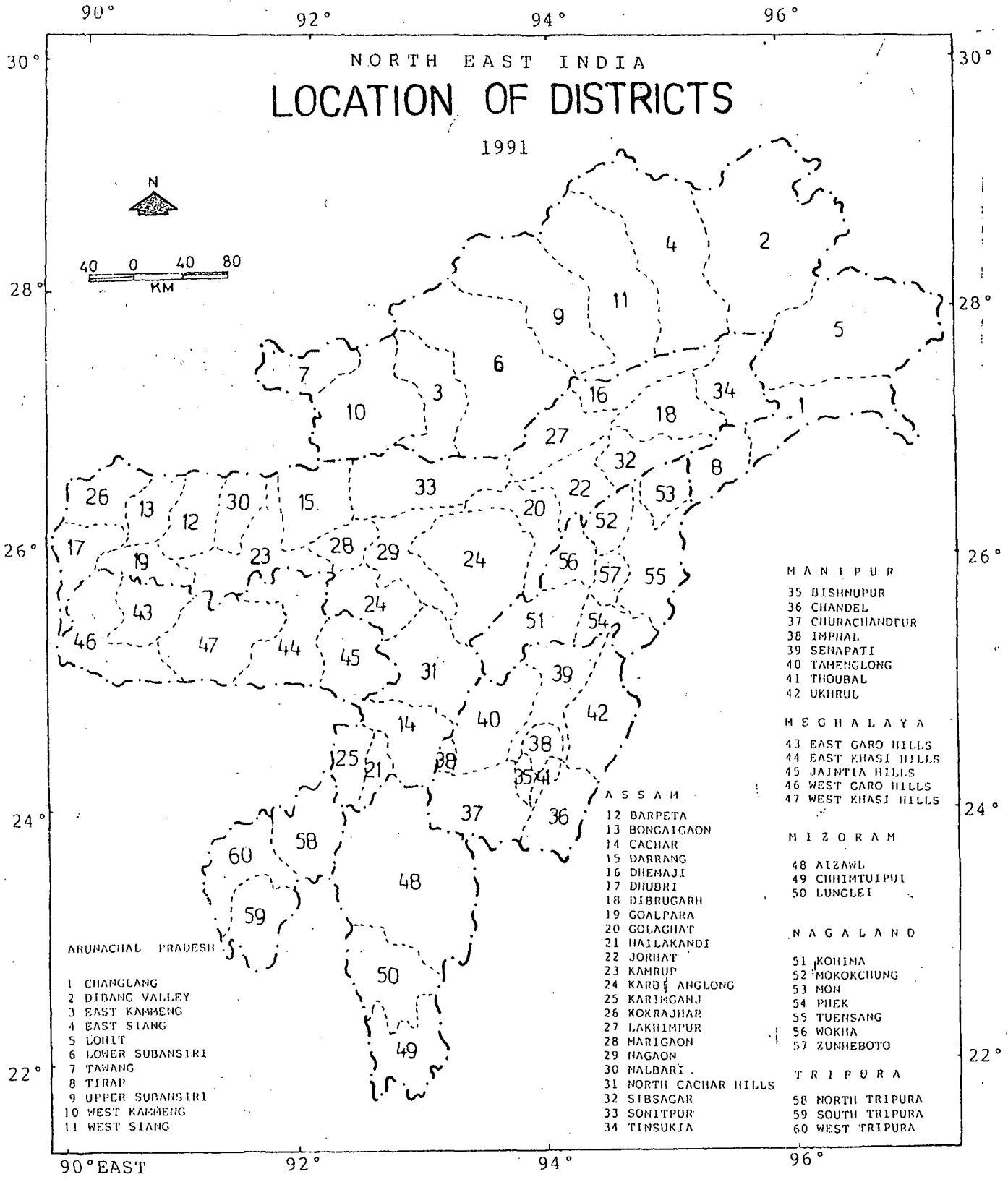
The objective of the present study are :

1. What are the nature of intra regional imbalances in the region?
2. How important is the colonial legacy in the region and does the legacy still persist in its classical form or has it been modified or replaced by some alternative structure ?

3. What is the nature of the current economic structure of the region ?
4. What is the role of the regional export sector in the overall economy ? Has this changed since its introduction during colonial times ?
5. What are the levels of sectoral development in the region ?
6. To what extent have the post independence policies of the central government influenced development/underdevelopment in the region ?

### 1.3. Personality of the Area

The North Eastern region (NER) occupies an area of 255,037 sq. km<sup>2</sup> and is located between 24° N to 28°18'N latitudes and 89°46'E to 97°4'E longitudes and consists of the seven states of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland and Tripura sometimes also called the 'seven sisters'. The 255,000 km<sup>2</sup> accounts for roughly 7.7 percent of the total landmass of India and supports a population of 31 million (1991 census) which amounts to 3.7 percent of the country's population. The NER shares international boundaries with China, Myanmar (Burma), Bangladesh and Bhutan and is tenuously linked with the Indian mainland by a narrow strip of land in North Bengal variously called the "Siliguri Neck" or the "Chicken's Neck", the width of which varies from 21 km to 33 km; a link not



**map 1**

infrequently disrupted by heavy rains and floods. The slender and tenuous connection by this narrow sliver of land attests to the often broken connection this region has, physically, with the Indian mainland and also to the poor transport connectivities, that such a narrow strip of land offers to the region. In fact the peripheral location and the transport bottleneck this region suffers from has been a serious hurdle to various pulses of development.

### 1.3.1. Geology

Mineral resources whether of coal, limestone or petroleum are a reflection of the geology of a region. Where differences in geology occur naturally variations in the types of mineral resource occurrences will result. The NER, a veritable microcosm of the larger entity of India, has like the latter three major geological areas - comparable to the Himalayas of the north, the Indo-Gangetic plains and the Deccan plateau respectively the NER possesses the Himalayan mountains of Arunachal Pradesh the Patkai Hills and Barail Range of Nagaland and Manipur and the Blue Mountains of Mizoram; the Brahmaputra - Barak valleys corresponding to the Gangetic and the Meghalaya - Karbi Anglong plateau as the eastward extension of the Deccan Plateau.

The region has a geologic history ranging from the Holocene to the Pre - Cambrian Protozoic Archeans dating back as far as 600 million years to 4500 million years in the earth's

to be crucial to the geology of the region; it was during this period that the denudation of the pre-Cambrian rocks and the ensuing deposition in the seas could eventually lead to the formation of sedimentary strata which became folded and faulted through the processes of the region's orogeny to attain their present elevation in the form of the mountain ranges.<sup>12</sup>

As Taher<sup>13</sup> has observed physiographically, tectonically and structurally the region can be divided into three major divisions :

- a) The rigid massif of the Meghalaya and Karbi plateaux
- b) The hills and mountains of tertiary origin, and
- c) The foreland between them; the Brahmaputra valley.<sup>14</sup>

The three structural units have different geological histories. While the Meghalaya plateau and Karbi plateau is not as stable a landmass it was considered, it is composed of various rock series ranging from the pre-Cambrian sedimentaries in the Shillong plateau area to the granitic and gneissic igneous rocks towards the southern base of the plateau, to the highly metamorphosed crystalline gneisses mixed with quartzite and conglomerates in the northern area. Volcanic and marine transgressions were not unknown, Professor Taher suggests, given the Gondwana deposits in Garo Hills and the Sylhet Traps in Khasi Hills. Submergence during the Cretaceous-Oligocene times resulted in Mesozoic and Tertiary sandstone, carbonaceous shale, coal, conglomerates and

limestone to get deposited. It is also probable that the region experienced severe tectonic pressures during the last phase of orogeny in the Late Tertiary period, judging by the steep scarp-like southern phase of the plateau which abruptly rises from the Sylhet plains of Bangladesh in the south, compared to the gradual step-like decreases in elevation towards the Brahmaputra valley in the north.

The Brahmaputra valley, possibly developed "on the foredeep between the Tethys Sea and the projection of the Deccan Plateau ... Geological evidences show that the foredeep was under the sea till the sub-recent period and contain deposits ranging(through)all the periods of the Tertiary and Quaternary Ages" (Taher, 1986: 3).

The tertiary deposits were superimposed on the layer of the foredeep, the bottom of which is formed by the relatively rigid Meghalaya-Karbi underground extension in the order of the Eocene (Jaintia Groups), the Oligocene (Barail Series), Miocene (Surma & Tipam Series) followed by the Pliocene (Dihang Series) deposits. Economically these deposits are significant, As Taher notes :

"Most of these tertiary sedimentary deposits consist of sandstone, shale, conglomerate and limestone. While the Jainia Group contains, at places limestone, the Barail (at Naharkatiya, Hoogrijar, etc.) and Tipams (at Digboi) bear large reserves of

petroleum, natural gas (in their anticlinal portions) and coal apart from shale and limestone".

Although it was once assumed that the oilfields of Assam were limited to Assam, recent survey have shown that oil fields are present in other parts of the region neighbouring the upper Assam area, as well. These resources exist in the younger tertiary formations possibly have extensive distribution<sup>15</sup> and the chances of finding more deposits appear bright.

The third structural unit of the NER are the hills and mountains of Tertiary origin. The Tethys Sea from whose tectonic folding outgrew the Himalayas took a syntaxial bend with the rigid Meghalaya Karbi plateau to one side (south west) and the Yunan Shan plateau to the other (north east) acting as a conditioning agent and while the main latitudinal arc forms the Himalayas proper, the southern arc bent between the Meghalaya-Karbi and the Yunan Shan plateaus, forms the hills and ranges that comprises the Lohit-Tirap-Patkai-Manipur-Mizo-Arakan ranges. Generally the rocks comprising these hills and mountains are of late tertiary period, but in some places, some slightly younger rocks are found. Toward western Nagaland, western Manipur, western Mizoram and Tripura younger Miocene and Pliocene rocks exist. From the mineralogical point of view some petroleum and natural gas deposits are available in these younger Tertiary formations, as also coal and limestone deposits.

While of the three structural units of the region, the foredeep or the Brahmaputra plains are undoubtedly the most important, given the present level of geologic understanding and assessment of resources. Aligned along the Brahmaputra valley, longitudinal stretches of young tertiary formations from the Lohit and Tirap districts of Arunachal Pradesh southwards down to Tripura are also important from the point of coal, limestone, oil and natural gas deposits.

Recent studies carried out by the GSI and the Atomic Minerals Department (AMD) have shown the existence of significant deposits of rare minerals - Uranium ore in the southern areas of Meghalaya stretching from Domiasiat in West Khasi Hills, where the seams are the thickest, till Jaintia Hills in the east, where the seam gets thinned out. Deposits are to the tune of 9.2 million tons of ore which is quite significant and exploitation is to be started shortly. Other occurrences are stated to occur in Western Garo Hills and parts of Arunachal Pradesh as well, but these are not fully explored and their economic exploitation yet to be assessed.

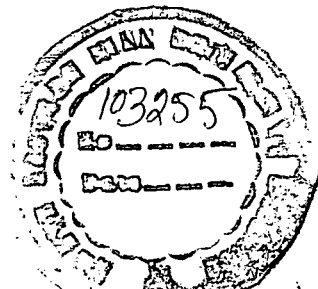
Nonetheless the region has substantial mineral deposits as a result of its geologic history. While petroleum and natural gas have been exploited fairly comprehensively, the prospects for better and further utilisation and setting up of coal and limestone based industries exist, though they are yet to be well tapped.

Apart from these existences of mineral deposits which occur, so to say, in fairly abundant proportion, there exist less important occurrences of a host of other minerals.

### 1.3.2. Physiography

The study of the physiography or the landforms are a sort of precursor to most geographical studies, as in the classical determinist trend, the physiography provides the base and the basis upon which human activities are charted out. The impress of the physical landscape is no doubt of considerable significance, yet the fact that man and technology can shrug of the shackles set by the physical environment, is also valid. As to how far the environment can set such limits on human activities and how easily man can 'revoke' such limits depends on the level of socio-cultural technology available with man.

Generally the NER with its physical landscape being a mixture of hills and mountains, plateaus and river valleys along with a peripheral location in relation to the mainland, has been an area where the level of technology available is on the low side and where man has struggled to assert himself. Given the size of the region there exist variations in the man-landscape interaction equation from the smooth canvas of the Brahmaputra valley to the mountaneous terrain of the Himalayan Arunachal Pradesh. Naturally there developed variations within the region in terms of human/anthropogenic activities, and an understanding



of the physiography of the region and the impulses it generated is necessary.

Physiographically the region can be divided into smaller physical units; Das divided it into<sup>16</sup>

- a) The Assam Himalayas; now the Arunachal Himalayas.
- b) The Brahmaputra valley.
- c) The Shillong Plateau including the Karbi Plateau.
- d) The Barak Valley.
- e) The South Eastern Hilly Region.

On similar lines, Das, Singh and Sharma<sup>17</sup> have divided the region, for convenience into the following

- a) Eastern Himalaya
- b) Purvanchal
- c) Assam valley, and
- d) Meghalaya - Mikir Region.

For the present study in which an idea of the physical landscape in relation to generating and /or facilitating human activity any method can be followed and Taher's scheme<sup>18</sup> is found convenient. Taher considers the region's physiography in terms of plateaus, plains and hills & mountains.

The Plains : Nearly 27 percent of the total area of the region are accounted for by plain, level land. Of these the largest is the Brahmaputra plain which accounts for about 82 percent of the total plains area (56,480 km<sup>2</sup>), followed by the Barak valley which covers about 10 percent of this type of landscape (6962 km<sup>2</sup>) along with the Manipur Basin with 2.7 percent (1843 km<sup>2</sup>) and Tripura's piedmont plain at 5 percent (3500 km<sup>2</sup>) of the plains area.

Out of the four constituent units, naturally the first - the Brahmaputra valleys has been the most important. In Subba Rao's terminology<sup>19</sup> the Brahmaputra valley can be termed as a region of relative attraction, located as it is on the fringe of the Indian subcontinent. Yet regionally, it can be considered as a region of attraction with its obvious benefits of a level agricultural floodplain annually replenished by the water of the Brahmaputra along with its attribute of navigational 'malleability'. Likewise the central location of the valley in the region aided its predominance over the rest of the NER economically, socially and politically. Unlike the other regions this meso-region has a history of human settlement dating back at least as early as 2000 B.C. and a heritage as ancient as the epic age when the area was referred to as Pragjyotisha or Kamrupa, with Pragjyotishpur (present day Guwahati) as its capital. The region finds several references to, in the Mahabharata, the Puranas and in the Tantras.<sup>20</sup> Between 2000 B.C. and 1000 A.D. the peopling process into the region took place, and one stream - the

major one - entered the region originating "from the banks of the Hwang Ho and the Yang-tse-Kiang in China"<sup>21</sup> "who along with others migrated from northern Burma formed the bulk of the population of Assam"<sup>22</sup> and another of much less consequence was that of the Aryan population, which crossed the Indo-Gangetic, Bihar and West Bengal and entered Assam in small numbers, but resulted in the fusion of Aryan and Mongoloid cultures, the latter process completing itself by about 1000 AD<sup>23</sup>. From the Brahmaputra valley succeeding waves spread out to the neighbouring hills and mountains of the NER.

Stretching from Sadiya in the east to Dhubri in the west the Brahmaputra valley is an almost flat stretch of plain, built up by the aggradational deposits of the river, with upto 1500 m thickness of alluvium; the levelness of the plain indicated by a fall of about 12 cm per km and the general level ranging from 130 m to 30 m.<sup>24</sup> The elongated valley has a length of some 660 km and an average width of about 70 km, with fairly regular margins to its north, and less regular margin to its south; the slope of the plain being towards south-west and west<sup>25</sup>

One interesting feature of the valley "is the presence of a good number of isolated hillocks or monodnocks on both the banks of the river right from Tezpur and Mikir hills to as far south as Dhubri, detached from the Meghalaya Plateau by the degradational work of the river."<sup>26</sup> As H.P. Das notes, although the valley is of depositional origin, some features such as the

southern margin along the hills & plateaus at places, are of erosional origin as well, due to the erosional work of the Dhansiri and Kopili which extended their courses on both sides of the Mikir and Rengma hills<sup>27</sup>

Taher identifies a bhabar zone, a Terai zone, a 'built up' zone and the flood plain from north to south of the valley<sup>28</sup>.

While both banks of the valley (North Bank and South Bank) have essential similarities, there exist some marked differences as well; generally the southern part being less wide and uneven and the tributaries that drain the main river being larger<sup>29</sup> the river is highly braided, due to its low gradient, and as a result there a number of riverine islands along the entire length of its 660 km course, including Majuli (929 km<sup>2</sup>) the largest riverine in the world. In addition to these, associated with the meandering course of the river are a good number of ox-bow lakes and fresh water lakes, locally called 'beels'. The mighty Brahmaputra, which drains the plain is both a godsend and a ravage to the region, for it provides a lush fertile agricultural valley to the inhabitants yet annually taunts them with extensive floods. The valley located in an earthquake prone zone has twice seen the mighty river change its course in 1897 and 1950.

Dwarfed in size compared with the Brahmaputra valley, but important to Cachar nonetheless, is the Barak valley, a part of the Surma valley of Bangladesh. This valley, built largely of

detrital material is dotted with a number of lakes and marshy tracts<sup>30</sup>, much like its larger counterpart, the Brahmaputra valley ; and the origin of the riverine lakes is also, due to the near level Character of the Barak plain Covering an area of 6962 km<sup>2</sup> the sluggish main river is joined by tributaries like the Jiri Diksha, Chiri Modhura, Dalu, Jatinga and Larang from North Cachar Hills in the north, as well as Sonai, Katakhal-Dhaleswari, Singia and Langai from Mizoram to its south<sup>31</sup>. The plain is both aggradational and degradational in character and with its terraces and hillocks, resembling the Brahmaputra valley in physical character and in affording opportunity for human activity.

The Tripura plain, like the Barak, is again a piedmont plain and represents the margin of the Bangladesh plain; is drained largely by the Gomti, where a small hydro electric plant exists and due to insufficient slope of the 3500 km<sup>2</sup> plain, has its share of riverine lakes and Marshes. It contains "both erosional and depositional features, with worn down hillocks, piedmont terraces and thick fluvial deposits covering the structural synclines"<sup>32</sup>

The Manipur plain is the smallest of the four plains of the region. Attributed to lacustrine origin, as Taher explains, it could have been formed due to the headward erosion of a tributary of the Chindwin during its incision into the valley through the Shughu Gap in Indo-Burma, draining out the excess

water from the basin, and leaving behind at the deep end, the Logtak lake. The elevation is less than the 900 metre contour that bounds it and this low oval valley has been of seminal importance to the kingdom of Manipur. Like the larger plains, it has a number of local depressions, marshes and lakes, particularly in the south central part<sup>33</sup>

The Hills and Mountains : Mountainous terrain, everywhere, provides more barriers than avenues to spatial interaction, inhibiting as it does, agriculture, industry, transport and communication. In the NER roughly 60 percent of the area being under hills and mountains, spatial interaction had never reached its zenith and these areas remained outside the orbit of receiving impulses from mainland India and even from the Brahmaputra valley such impulses were infrequent and changes that resulted had to be either generated from within, or took significantly long in being transmitted from external sources. Trade links within such areas no doubt existed, as also with the international borders (Bhutan, Burma) but then these were always more tenuous in character and slender in volume. Such areas were the areas of isolation, although with intra-regional variations in terms of interaction, stretching from the Tirap and Changlang through Nagaland, Manipur down to Mizoram and Tripura.

These hills and mountains cover an area of some 150,000 km<sup>2</sup> and can be divided into the Arunachal Himalayas in the north; and the eastern hills and mountains consisting of the Dibang-

Lohit-Patkai-Naga-manipur-Mizo axis to the east ranging NE-SW with the Dihang-Dibang gorge being a convenient divisor.

The former is again divided into a Lesser Himalayan zone varying between 300-500 metres and lying just adjacent to the Brahmaputra valley and to its latitudinal and directional north, the Greater Himalaya, varying in elevation between 5200 metres to 7200 metres. The former, a foothills zone or the Sivaliks area, is the more habitable of the two and, given the heavy rainfall it receives, affords a thick, at times impenetrable vegetation. Bands of soft rock, resulting in varying erosion, mean that topographic changes are rapid and the region is generally a confused labyrinth of hills and ranges intervened by deep gorges<sup>34</sup>, with small and marginal valleys scattered in a disorderly manner as if broadcast by some force. It is in such valleys that man is able to eke out a subsistence. Where relatively larger flatlands exist, as in the tablelands of Bomdila and Ziro the traditional shifting agriculture is abandoned for age-old traditional wisdom honed practices of terraced wet rice cultivation. Such enclaves are replaced by the peri-glacial and inhospitable highlands to the north where, with increase in altitude the vegetation cover peters out, and the snow capped peaks vie for space with patches of alpine vegetation. In elevation of 6500 metres or so on an average, agriculture is unknown, and food-dropping by the Indian Army is the mode of sustenance. In the mysterious past, several difficult passes that cut holes in the Himalaya - the Tulung La, Dom La and Se La among

others - allowed Arunachal to have contact with Tibet and via the Chumbi valley with Bhutan, where trade and winds of change could intermittently blow in.

The eastern hills and mountains, aligned NE-SW, are, altitudinally, a poor cousin to the Arunachal Himalayas, ranging from 1000 to 3000 metres in general and occasionally higher, with the elevation falling off to 150-900 metres in Mizoram and Tripura to the south. Northwards, the elevation is the highest at Dapha Bum in Lohit area (4579m.) gradually decreasing to sub-4000 m. at Saramati (3826) in Nagaland, where the Patkai hills are their best; to Japavo (3015 m) in Nagaland again in the Barail Range. This decreasing trend continues into Manipur, where the hills enclose the Manipur Central plain in which is embedded the Manipur Basin which is possibly of lacustrine origin.<sup>35</sup> Apart from the intermontane basin and a few flat topped valleys like the Khoupum, Manipur is criss-crossed by the Patkai and tributary ranges which trend NE-SW and vary in altitude from 750 metres to about 3000 metres, with the highest part of Manipur lying in the north east at Mount Tenipu (2994 metres), Khayanghung (283 m), Leikot (2832 m), Siroi (2568 m) among others.

The criss-crossed 'range and valley' pattern of Manipur extends southward into Mizoram and Tripura, spilling south as far as the Chittagong Hill Tracts (CHT) of Bangladesh". The hills are made of shale and slate and hence their tops and slopes are notoriously deficient in water. The ranges in the east are higher

with an average height of 1400 m and as one goes westward they lose altitude to an average height of 500 m" as Taher<sup>36</sup> sums up the physiography of Mizoram. Clearly the elevation of this tract is not too high so as to impede or constrict human activity in itself, yet the trend of the hill ranges is important in this respect. The general North-South alignment of the hills with narrow and deep valleys sandwiched in between has hampered east-west road construction, which remains aligned along the ridges and 70 percent of the roads trend north-south<sup>37</sup>, with the east-west trending roads difficult to construct and maintain, in the face of an altitude well below the highest peak of the Blue Mountain's 2157 metres. The Tripura hills continue with a decreasing elevation trend noticed in Manipur and Mizoram, with low hills averaging 400-700 meters, separated by wide flat valleys conducive to paddy cultivation and hosting, in terms of the region's average, a dense blanket of population, which Mizoram or Manipur would be hard-pressed to emulate. The hills and mountains which dominate the region - in crude deterministic terms - seen to strongly condition the distribution of man and apart from Tripura where the local relief is scattered with small hills and generally permits settled agriculture - man is not free to settle and start his activities as and where he wishes, but where the hills and mountains permit.

The Plateaus : The Meghalaya-Karbi Plateau is a tableland spread in an east-west elongated tract covering an area of 32,821 km<sup>2</sup>. Like the Deccan shield of which this plateau is a part, it is a

rigid tableland composed of pre-Cambrian Archean gneisses interspersed with Lower Gondwana rocks, Sylhet Traps and Cretaceous-Tertiary sedimentaries and the Shillong series. In fact it is an east ward extension of the Indian Peninsular Plateau separated by the Malda gap (or the Garo-Rajmahal gap) as a result of denudational and tectonic forces<sup>38</sup> and has been witness to a series of uplift, submergence and peneplanation and consequent "phases of erosion, sedimentation, diastrophism, intrusion, movements of land and sea and emissions".<sup>39</sup> The Meghalaya segment of the plateau, with a maximum height of 1965 m at the Shillong Peak, rises sharply from the south off the Sylhet plains and gently slopes off to the Brahmaputra valley to the north in a step like manner and offer ample scope for hydro-electric power generation, only a small segment of which has been tapped till date. Westwards to the Garo Hills the Shillong plateau decreases to a maximum of 1412 m at Nokrek and at the western and eastern margins are 'dissected and denuded and merge with the Brahmaputra plain through gentle gradients and isolated hills and hillocks'.<sup>40</sup> Eastwards the Karbi Plateau, itself separated to an extent from the Meghalaya area by the headward erosion of the Kopili and its tributaries is composed of small stretches of land above 1300 metres set against a general elevation varying between 100 to 900 metres. Two peaks rising above the generally denuded hills are the Chenchison Peak (1359 m) and the Dambukso Peak (1361 m) north of Diphu. Generally the Karbi Plateau assumes a rounded shape with fingers of lowlands interrupting the landscape. Such lowlands composed of river terraces, are conducive to

valuable forests including teak, sal, cane and bamboos. However, in the face of paucity of an effective means of transport and communication the rich forests of Karbi Anglong have remained untapped. In fact, "The most important drawback which stands in the way of satisfactory exploitation of the forest wealth, ... is poor or rather no transportation links with the rich forest areas".<sup>41</sup>

The whole chunk of the Meghalaya-Karbi plateau is covered with thick vegetation and the observation of Das made a good two and half decades earlier, does not hold quite as true today where forest resources are being tapped at an alarming rate, at least in Meghalaya if not the Karbi plateau as well.

### 1.3.3. Location

The situational location, as distinct from the site of a place which refers to the physical character of the location<sup>42</sup>, refers to the location of a place relative to other places and is an important factor in affording natural advantages or vice versa for the growth and development of a city, region or country in terms of economic, technological or political aspects, among others. The NER situated at the north eastern periphery of the country has not had the best of locations and this factor has played a negative and retarding effect on the society, economy and polity of the region. Its peripheral location made it relatively inaccessible from the mainstream of the Indian subcontinent; physically and economically, the region stagnated.

as it were - trade routes, transport lines and technological developments were developments were seemingly stunted and there was a time lag between innovations reaching this region and the Indian mainland in the historical context. Even in the contemporary age of technological revolutions the location of the region has acted as a constricting force to innovations from without. Periphera-lisation in strictly spatial terms has been one factor among others, leading to peripheralisation in non-spatial aspects. The influence of situational location in this region can be considered as follows :

Economically, distances has been a major deterrant. Production costs are that much higher given that transport costs are an additional additive. Transport costs are higher in procurement of all items whether for domestic or commercial use and raw material costs can often be prohibitive. On the other hand whatever little markateble surplus that exists in the region has to bear additional transportation costs before it can be marketed outside the region, a situation compounded by the fact that demand within the region is pretty low. In such a scenario the poor transport infrastructural set up of the region in which long delays, high transshipment costs (not only from road to rail but also from meter gauge to broad gauge) punctuated by hazardous uncertainty for entrepreneurs exist, the role of location has hardly been conducive to business, commercial and economic activity. Little wonder than location, manifest in transport cost, is often given the dubious distinction of stunting the

industrial potential of the region, so much so that new industrial activity is almost a non-starter considering that institutional investment and other factors are very tardy in the region, transport & communication infrastructure are inadequate, road development and building materials like steel and cement are 30-40 % costlier than elsewhere in the country.<sup>43</sup>

Culturally this region has had ~~fewer~~<sup>few</sup> contacts with mainland India compared to other peripheral corners of India. The region being a relatively late entrant into the colonial scene also evolved and nurtured a slightly 'different' but nonetheless very much Indian culture; in which Christianity, animism, Buddhism and Hinduism all existed. The peopling process of the region which received several streams of immigrants from south east Asia led to a largely mongoloid stock. Thus ethnic, historical, cultural and colonial imprints were unique to this isolated area largely brought on by its situational location. Cultural affinities with India doubtlessly existed but these were overshadowed by greater differences from without and the superficial situational affinities within the region. Superficial in the sense that intra-regional differences in ethnic, tribal, religious and linguistic terms were very pronounced.

Politically the tenuous location made the region one of immense strategic importance with China, Burma and Bangladesh (leave aside friendly entities like Bhutan) breathing down India's NER's borders. India's political complacency was given a

rude shock when China ambled across the border in 1962 and shook up things, giving a fillip to developmental activities in Arunachal Pradesh<sup>44</sup>, when Nehru, then Prime Minister made a pious 'farewell-Assam' sort of speech on All India Radio<sup>45</sup>. In some instances, investment in the region suffered due to the politically strategic nature of the region's location.

The region's external accessibility apart, it suffers from acute internal accessibility deficiencies. Although all four modes of transport exist in the region, i.e., railways, roadways, inland waterways and airways, the level of connectivities are well below desirable levels. Barring Assam whose plains, combined with colonial motives, led to development of various transport modes reasonably early, although not reasonably judiciously<sup>46</sup>, the remaining states have poor connectivities resulting due to a combination of locational and topographical factors.

#### 13.4 Climate

The region's climate is a mixture of (a) cold humid monsoonal climate in hills above 2000 metres (b) wet sub-tropical in southern Arunachal, Western Nagaland, Manipur and Mizoram and (c) humid mesothermal monsoonal in the valley and plateau areas.<sup>47</sup> Almost the entire region receives copious rainfall, particularly the Cherrapunji-Mawsynram-Pynursla belt of the southern part of Meghalaya, which borders Bangladesh with a classic scarp face and with its funnel-like topography traps the rain laden winds. This heavy rain, coupled with the hills has

clad the region, at least the hills, with a luxuriant vegetation and a rich biodiversity. Although the climate has been both a boon to the vegetation which has been much maligned, forests being exploited recklessly, the fact that climate has a profound influence on the life, economy and cultural fabric of the region is undeniable.

The region is ideally suited for the cultivation of tea and supports wide range of tropical forests. The tea plant which thrives best under temperature conditions varying between 24°C to 30°C throughout the growing period along with high humidity, dew and morning fog which encourages the growth of leaves, and rainfall well distributed year round between 150 cm to 250 cms., finds near ideal conditions in the Brahmaputra valley with its heavy annual rainfall and temperature varying between 12°C to 31°C, with frost free conditions throughout the year, topped with 70 to 90 days of winter fog. Of the two types of cultivated tea - Assam tea and China tea - the former, a dwarf bush with leathery leaves is well suited to the tropical climate of Assam. Initially the tea plant was restricted to the Brahmaputra and Barak valleys of Assam, but present attempts at tea cultivation are proving tenable in Arunachal Pradesh, Tripura, Nagaland and Meghalaya. The region is densely forested and considering the variations in elevation, soil and climate local variations in vegetation are numerous. They can be broadly divided as follows<sup>48</sup>: tropical, deciduous, grasslands, subtropical mixed, temperate and alpine forests. Of these the tropical forests which include wet ever-

green and semi evergreen forests, dry and moist deciduous forests are the single most extensive category covering large stretches of Assam, Meghalaya Tripura, Mizoram and Manipur. Such forests are dappled with patches of wet bamboo brakes, cane brakes, riparian forests and swamps and pioneer euphorbiaceous serubs.<sup>49</sup> Hollock, Hollong, Nahor, Mekai, Sopa, Kadom are common trees.

The deciduous forests are spread over parts of Assam, Meghalaya, Tripura and Mizoram. In Meghalaya such forests, in low altitudes of the Khasi and Garo Hills support sal (*Shorea Robusta*) forests<sup>50</sup>, while in the Goalpara, Kamrup, Dhubri, Kokrajhar, Nagaon districts sal species occur, although in limited extent. Other species include Simul, Sidha, Gamera (*Gmelina Arborea*), *Parviflora Makri-Sal*.

Grassland or savanah vegetation type are commonly found in the lowlands of the Brahmaputra valley which are subject to annual flooding and in area of the Meghalaya Plateau. The original semi-evergreen and deciduous forests have been degraded into grasslands, which represent secondary forests.<sup>51</sup> Vegetation includes grasses, marsh forests and swampy vegetation along with species like *Cayera arborea*, *wrightia tomomtosa*, *Zizyphus*, *Randia* and 'rata' (*Imperata arundinacea*).<sup>52</sup>

Subtropical mixed forests in low elevations (upto 1500 metres) of areas of Arunachal Pradesh and temperate forests in parts of the Meghalaya-Karbi plateau and Naga-Mizo Hills and

alpine forests in higher elevations of Purvanchal complete the picture. In the temperate belt species like pine, fir, oak, birch, chestnut, magnolia, maple, cherry, fig, moly and cherry trees occur variously while in the alpine forests restricted to higher elevations in the Arunachal Himalayas between 2700 m to 4,300 m, shrubs, jumpers, pine, silver, fir, dwarf rhododendrous and conifers are found.<sup>53</sup>

While the climate of the region with its moderate temperature and general rainfall has endowed the region with luxuriant vegetation, the human factor in the guise of colonial policy compelled with the peculiar mode of agricultural production - 'jhumming' - have together resulted in degradation of this resource. Colonial pursuits saw to it that extraction functions were most important, and post colonial patterns of forest exploitation have not nurtured forests which remain below the National Forest policy standards in hills and plains areas. Nonetheless, barring aside the use (or misuse) man has made of forests, that nature has been bountiful in providing conducive conditionalities to vegetative growth in the region is undeniable.

*Brief Chapter and  
Summaries focusing on inter regional  
variations related to the above potential  
A Map for each aspect could have been  
more conclusive.*

#### 1.4. Hypotheses

The hypotheses can be outlined as follows :

1. Enclaves of development are superimposed on a general background of limited development/relative backwardness conforming to the colonial legacy.
2. That sharp intra-regional differentiations exists along the lines of colonial policy induced disparities and that these have not be substantially altered by post-colonial/central government policies.
3. The changing strategic importance of the region has added a new dimension to the process of induced development. Areas less favourably endowed from environmental and resource points of view are likely to exhibit such spuriously enhanced developmental levels.
4. Specialisation in the production of export oriented primary products is largely due to the conditions imposed by the national and international markets and the conditionalities imposed by colonial rulers that continue to exist, though in a modified form.
5. In the absence of regional product specialization the export oriented production process will have marginalised the economic multipliers effect and the residentiary effect.

6. Central government resource allocations continue to reinforce pre independence patterns of development.

#### 1.5. Data Base and Methodology

The study is based on secondary and to a lesser extent, on primary sources. Data from the CMIE, NEC, Tea Board, Census of India, The Directorates of Economics and Statistics of the concerned states, Plan Documents and other GOI publications such as the Bureau of Public Enterprises, Fertilizer Statistics, Handbook of Industrial Statistics and Annual Survey of Industries were collected. Primary data regarding outflow of timber from the region were collected from the office of the Forest Ranger Officer, Srirampur, Assam.

The methods used in the study can be grouped as :

##### i) Cartographic Methods

Maps which are an integral tool of geographical and spatial analysis have been used. The choropleth method has been preferred to show levels of intra regional development. The use of bar diagrams for representing gas flaring, income tax allocations to the region, classification of workers etc. have been made.

##### ii) Statistical Method

Principal component analysis was carried out to determine levels of development in the region.

## 1.6. Chapter Scheme

The study is divided into the following Chapters :

Chapter One deals with the statement of the problem, that of development and underdevelopment, it outlines the objectives and hypothesis, in the context of the personality of the study area and briefly sketches the main data sources and the methodology used, followed by the chapter scheme.

Since no research is carried out in a vacuum, but in the context of the existing paradigm it is necessary to consider the existing literature on development and underdevelopment and the dependency perspectives. This is dealt with in the first part of Chapter Two and these conceptual and theoretical moorings are considered in context of studies in India, and more specifically in relation to the north eastern region of India. Mere facts are essentially meaningless with a proper methodology and Chapter Three outlines the methodology worked upon to meaningfully interpret the data base and the limitation to the latter. The evolution of the regional economic structures in the colonial period which has an imprint on the current make up of the economy are dealt with in the Fourth and Fifth Chapters. The region has significant intra regional variations in levels of development and these along with their causes forms the focus of the Sixth Chapter. The unit of analysis is the districts as existing in 1991 are considered.

The region has an important regional export sector comprising of tea, petroleum and the forest sectors. The role of this export base on the regional economy in the light of the export base theory in actuating resultant residentiary effects are analysed in Chapter Seven. Since the country embarked on a path of planned development significant improvements, sectoral and regional, have resulted. The impact of the central government policies in terms of financial allocations, subsidies and social plans for the NER is the focus of Chapter Eight. Finally a summary of the conclusions is presented in the Ninth Chapter.

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## CHAPTER II

### LITERATURE SURVEY

A literature survey is, as the term suggests, a survey of the field in which the researcher intends to focus upon. It is intended to serve a number of purposes : to take a view of the existing theories in that field or sub-field, to assimilate and integrate the discourses in that area and then to move beyond. It is intended to be a sort of reconnaissance in which the researcher weighs the validity of existing theories in the light of the new problem that is to be focussed upon; at the same time it enables one to develop a framework in the light of the existing paradigm, and to develop a conceptual mooring. Moreover, the literature survey can, at least theoretically, allow an entrant the foresight to avoid repetition on a particular piece of research. In fact it enables one to offer new dimensions to existing works, be it a time dimension or an addition of some new aspect or in positioning the researcher to be able to prognosticate future trends given the current knowledge, principles and set of rules that has been surveyed.

The conceptual development of a field of study can often be gauged by the degree of fragmentation and development of sub-fields within the larger focus of that discipline. Geography comes across as a discipline with a marked degree of fragmentation into sub-fields apparently linked with its conceptual development. Yet in spite of the broad focus and

almost consistent dendretic developments in the emergence of more and more sub-sets and sub-fields of enquiry, as far as Indian geography is concerned, the geography of underdevelopment has been a late starter.

In 1972 when 'A Survey of Research in Geography'<sup>1</sup> was published, all the sub-fields of the mother discipline found mention, but the geography of underdevelopment was conspicuously missing. However, by about the end of the seventies this field surfaced in India, and this "approach in Indian geography owes much to the work of scholars at Jawaharlal Nehru University in New Delhi".<sup>2</sup>

The present chapter starts with a review of the trends of research in the geography of underdevelopment, in which the seminal works in the field are briefly reviewed. The next section outlines the nature of work carried out in India and specifically in relation to the north eastern region of India.

### **2.1 The Geography of Underdevelopment : An Overview**

Capitalism is the cornerstone around which radical development theorists, including geographers, have attempted to analyse and explain patterns of differential world development and development of underdevelopment. The basic argument centres around the thesis that it was through the machinations of capitalism that highly developed western nations were able to drain away surplus from the less developed, feudalistic or

precapitalistic countries through military imperialism and the development of colonies wherein the capitalist countries were able to develop at the cost of creating underdevelopment in the colonies.

Although the above conceptualization was made popular by Gunder Frank<sup>3</sup>, Wallerstein<sup>4</sup> and Amin<sup>5</sup>, among other proponents of the Latin American dependency school, it was Paul Baran in his Political Economy of Growth<sup>6</sup>, who first propounded such a theory.<sup>7</sup>

Baran, distinguishing between competitive capitalism and monopoly capitalism, theorised that when the former degenerated into the latter, there was no option left for the system but to direct itself to the exploitation of the Third World using imperialism backed by superior military strength. In explaining competition<sup>we</sup> capitalism Baran holds that very marginal differences exist between the actual and potential economic surplus produced due to conditions of near perfect market forces being allowed to operate, under which individual entrepreneurs are able to "get ahead, to accumulate and to enlarge their enterprises"<sup>8</sup>, which served as a powerful engine of expansion. However, when added doses of thrift and economies of scale are added firms begin to stifle their own growth and competitiveness leading to monopoly capitalism, which having little need for innovation since the conditions of perfect competition are removed. Thus :

"In any given situation an expansion of output is likely to be contrary to the monopolist's profit maximisation policy, depending on the prevailing elasticity of demand for his product... an increase in output may fail to increase his total profits or may even reduce them below their pre-output expansion level".<sup>9</sup> Given such a malaise the 'safety valve' situation lies in the imperialistic exploitation of underdeveloped countries. The backward realm, as such, represents an indispensable hinterland of the highly developed capitalist west,<sup>10</sup> since they provide raw materials, profits and investment outlets to the latter, in which their economic surpluses can be profitably channelised. Following the lines of Baran, scholars such as Frank, Amin and Wallerstein emerged.

Andre Gender Frank, was possibly influenced by the latter parts of Baran's (1957) Political Economy in which exploitation and extraction and transfer of surplus from backward countries leading to European (capitalist) development is dealt with. Frank and Wallerstein have been considered as the two remembered heroes of radical development geography who added on Baran's treatise in ways which were at once attractive to geographers'<sup>11</sup>. Essentially Frank's thesis was that in the world dominated by a single economy exchange relations are such that there exist a series of metropolis-satellite links which draw surplus production towards the metropole, leading to their/its growth and development and causing stagnation and underdevelopment at the periphery from where these surplus transfers

originate. As a result of such unequal transfers not only do the satellites get underdeveloped, but also structures of underdevelopment get created<sup>12</sup> and their genuine possibilities of development are obstructed and the process of underdevelopment get spirally accentuated.<sup>13</sup> Thus the same processes which lead to metropolitan development create under-development at the periphery (satellites), the process being two sides of the same coin.

There exist antagonistic relations in terms of exchange between the metropole and satellite and development and under-development are analysed as related, integrated and inevitable parts of colonialism. Prior to colonialism the satellites were not underdeveloped and the natural condition of these nations were not one of underdevelopment, on the contrary it was their association, under compulsion with developed capitalist societies which resulted in their becoming underdeveloped Frank explains 'underdevelopment' as :

not just the lack of development. Before there was development there was no underdevelopment. This relation between development and underdevelopment is not just a comparative one, in the sense that some places are more developed or underdeveloped than others : development and underdevelopment are also related, both through the common historical process that they have shared during the past several centuries and through the mutual, that is reciprocal, influence that they have had, still have, and will continue to have, on each other throughout history.<sup>14</sup>

Frank's ideas have been succinctly summed up into four basic hypotheses<sup>15</sup> :

Hypothesis 1 : In contrast to the development of the world metropolis ... the development of national and other subordinate metropolises is limited by their satellite statuses.

Hypothesis 2 : The satellites experiences their greatest economic development when their ties to the metropolis are weakest.

Hypothesis 3 : When the metropolis recovers from its crisis and reestablishes the trade and investment ties ... the previous industrialization of these regions is choked off.

Hypothesis 4 : The regions that are the most underdeveloped and feudal today are the ones that had the closest ties to the metropolis in the past.

Whatever Frank's shortcomings were and his critics are considerable - the fact that radical geography was making its appearance around this time meant that radical geographers such as Peet and Terry Camon were strongly influenced by his ideas.<sup>16</sup>

Wallerstein following Frank, accepts the role of metropolitan societies in appropriating surplus from the periphery and that this sort of penetration causes underdevelopment in all spheres : economic, social and political; in the pre-capitalist formations that make up the satellite colonies. However, Wallerstein added to Frankian perceptives in at least two ways. First he conceptualized a three-tier hierarchy of states : core, semi-periphery and periphery, compared to the Frankian two-tier core-peripheral structure. In the semi-periphery a sort insulating buffer-like condition is maintained, while in the core state power via conquest, monopoly and protectionism the surplus from the periphery is extracted.

Secondly, Wallerstein forwarded a three fold social system comprising of mini systems, world implies and world economies conforming to insulated and inner-oriented local economies, economies in which tribute to a higher authority was paid and profit maximising market production oriented capitalistic economy respectively. Along with Frank, Wallerstein provided an alternative to the capitalist path of development of the Third World. Yet that Wallerstein was borrowing much of the Dependency structures like unequal exchange and core-periphery exploitation should not cause us to rob him of his theory of world systems, which he later postulated. As So<sup>17</sup> notes Wallerstein moved beyond the domain of the neo-Marxist dependency school, and he plausibly used dependency concepts on the grounds that these concepts were "a critique of both the modernization

school and the Marxist developmentalist perspective". That Wallerstein drew upon dependency concepts is clear<sup>18</sup> including the opinion that "the 'feudal' forms of production characteristic of much of American history are not 'persistent from the past' but rather products of Latin America's historical relations with the core".<sup>19</sup>

Wallerstein<sup>20</sup>, found the conceptualisation of the world into a bimodel core-periphery system overly simplistic. Moreover, many nations of the world could not be clubbed in either category of core or periphery and rather required an intermediate and distinct class; thus led him to forward a trimodal world system of core, semi-periphery and periphery.

The semi-peripheral states, Wallerstein holds, stood in between (the core and the periphery) "in terms of the kinds of products it exports and in terms of the wage levels and profit margins it knows".<sup>21</sup> Again in his trimodal setup the semi-peripheral state trades with, or seeks to trade with both the core and the periphery. Yet Wallerstein suggests that it would be in the interest of the semiperipheral country to reduce external trade even if such a trade entails a positive or equal exchange, "since one of the major ways in which the aggregate profit margin can be increased is to capture an increasingly large percentage of its home market for its home products."<sup>22</sup> Herein comes the role of the state and a timely politicisation of economic decision making is necessary both when a peripheral state

attempts a breakthrough to achieving the status of a semi-peripheral state, and when the transition from a semi-peripheral state to a core state is attempted. Such transitions can be made by self-reliance or by invitation. In the latter instance collaboration with external capitalists occurs. A third route to enhanced status, in the Wallerstein model is by chance, making the transition at the right moment; this adventurous opportunism is however limited to the relatively stronger peripheral countries with already established industrial bases.

Wallerstein then, not only offers a trimodal world system\*, but also a fresh interpretation of the history of the capitalist world system.

Wallerstein holds that it is the social system that is of the prime importance; social systems with "a division of labour, such that the various sectors or areas within are dependent upon economic exchange with others for the smooth and continuous provisioning of the area."<sup>23</sup> The three modes of production under which societies organise themselves to carry on production, Wallerstein identified as the reciprocal lineage mode (have production is differentiated on the basis of age and gender), the redistributive-tributary mode (this occurs in a class based society wherein a large segment of the population practising agriculture undertake the production and pay tribute

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\* Wallerstein's scheme does not entail a static and rigid division, but rather a trimodal setup in a continuous state of flux, in which the change does not occur at a regular rate.

to a small ruling class populace) and capitalist mode (this is also class based, but distinct from the redistributive-tributary mode in that the former involves accumulation of capital). There thus exist mini systems (closed local economies), world empires (tribute given to the central authority) and world economies (capitalist economies, in which the "essential feature is production for sale in a market in which the object is to realise the maximum profit."<sup>24</sup>).

Wallerstein's re-interpretation of the history of the capitalist world economy is differently viewed in one of his more recent efforts<sup>25</sup>, where he analyses the history of the world capitalist economy in two phases - (a) from the sixteenth century to 1945 and (b) from 1945 till the present; as well as approaching the issue of antisystemic movements and as to what should be done in the contemporary era in which the capitalist world economy is being rapidly transformed. Without considering this article in detail, the observation by Wallerstein, that of late, all types of antisystemic forces having come under scathing attack, is relevant. As he holds, criticism has come both from within the countries or from within the movements in power for the important reasons that they failed to achieve the combined end product of economic growth with internal equality. These are inevitable considering the two goals of antisystemic movements : which, on the one hand, seek greater internal equality, and this involves fundamental social transformations; and, on the other hand, seek enhanced economic growth, this involves catching up

with the core. Prior to the 1940s such contradictions were not problematic with prospects of growing economic cake to partake of, but since then a weakening "of the political carapace of capitalism which, by allowing the anti-systemic movements to arrive at state power in large numbers exposed the deep internal cleavage of these movements, the rift between those who sought upward mobility and those who sought equality".<sup>26</sup> Given such a situation, Wallerstein "advocates a world level strategy that requires implementation by a world level movement".<sup>27</sup> However, such a world-level strategy of promoting surplus retention, by Wallerstein's own admission, could be combated by capitalists themselves in the face of threat to the system and would appear as overly simplistic. Nonetheless, the merit of this theorising must be seen in that in place of national class struggle, Wallerstein favours a conceptually innovative class struggle movement at the world level.

While considering Wallerstein's contributions, without entering the issue of differentiation between dependency and world systems approaches, the fact remains that Wallerstein's conceptualization is of limited use<sup>28</sup> since it cannot explain why colonialism and underdevelopment in some countries coincided with development of others. Forbes, giving the instance of Indonesia and Australia respectively points out Wallerstein's (semi-peripheral) lacuna in clubbing both these countries together.

Another important contributor to the Dependency School has been Samir Amin, who followed up a doctoral dissertation in 1955, with "Unequal Development" (1973)<sup>29</sup> and "Accumulation on a World Scale (1974).<sup>30</sup> Although it has been felt that Amin presents "a compendium of virtually every proposition ever advanced by underdevelopment theory, assembled in a chaotic manner".<sup>31</sup> Amin denies that the periphery was significant for the development of capitalism in its evolution from competitive to monopoly capitalism to its 'technological' capitalism phase. Thus the implication one derives from Amin's Unequal Development particularly seems to be that of a system in which the peripheral formations are of extremely marginal significance to the core. Yet this does not in any way suggest the absence of a relationship between the core and the periphery; for this would be totally ignoring the handicapping and development-inhibiting role of the centre on the periphery.

Amin propagates that a mode of production that is a "borderline" formation or a "peripheral" formation (in contrast to the "central" formation which exists in the centre) develops at the periphery<sup>32</sup> and that in such an equation, the dominant partner is the central or capitalist mode of production, for "the capitalist mode, which is dominant, subjects the others and transforms them, depriving them of their distinctive functioning in order to subordinate them to its own, without, however, radically destroying them".<sup>33</sup> The centre and the periphery are then subordinate and hierarchical components of a single system,

a single world market system.<sup>34</sup> As a result of such an unequal and antagonistic relations the precapitalist formations experience a cul-de-sac or dead-end in their path of development. Amin then proceeds to dwell on the circumstances that lead to unequal exchange between countries (and here he acknowledges the work of Arghiri Emmanuel's, "Unequal Exchange")<sup>35</sup> and the structural features of the world capitalist system of the 19th and 20th centuries, noting that as a parasitic system capitalism is always on the lookout for greener pastures.<sup>36</sup>

In outlining the road to peripheral capitalism, he outlines nine theses<sup>37</sup> which in brief are as follows. First, that the path to peripheral capitalism is 'fundamentally different' from that to central capitalism, in that crucial retrogressions - such as the ruin of traditional crafts leading to agrarian crisis-occur in the peripheral economies.

Second, an "extraversion" or distortion toward export activities is one of the main distortions in the development of the periphery that occurs. The periphery is relegated to the role of supplier of primary produce (agricultural produce and minerals); and the level of wages at the periphery becomes lower than at the centre, for the same productivity.

Third, further distortion in the form of "hypertrophy" of the tertiary sector of the periphery. While at the centre such an occurrence is limited to the difficulties in realizing surplus

value in monopoly capitalism, at the periphery it results due to a deeper malady : the contradictions inherent of peripheral capitalism (such as retarded industrialization, increasing unemployment etc.). This hypertrophy of unproductive activities, Amin holds, inhibits capital accumulation in peripheral countries.

Fourth, as a result of 'unequal international; specialization' the periphery is geared toward, at best, 'light branches of activity' upon which modern production techniques are applied creating a set of developmental problems that are different from those of the centre.

Fifth, as a result of the export of the profits of foreign capital, the multiplier effects of investment do not apply to the periphery. Conversely export of the profits of foreign capital transfers the multiplier effects from the periphery to the centre, thereby accelerating development of the latter in place of the former.

Sixth, as long as these relations of unequal exchange are not challenged, the periphery remains unequipped economically to unfetter itself towards achieving growth. If the periphery is to achieve this, the domination of central capitalism and foreign monopolies must be challenged.

Seventh, there exists certain structural differences between underdeveloped countries and now-advanced countries as they were at earlier stages of their development, which prevent the researcher from clubbing them together. These structural features of underdeveloped countries are : 1) the "the extreme unevenness that is typical of the distribution of productivities", 2) the orientation of production to the needs of the centre, which prevents percolation of the "benefits of economic progress from the poles of development to the economy as a whole" and 3) the economic domination by the centre which is expressed in the forms of centre-periphery trade and financial dependence.

Eighth, as the features of underdevelopment get accentuated, the possibilities of growth of the periphery get blocked.

Finally, the form of underdevelopment of the periphery depends on: 1) the nature of the precapitalist formation that existed before, and 2) the forms and the period in which they were incorporated into the world system. Nonetheless, the basic structure of all peripheral capitalisms are of much the same model characterized by the dominance of agrarian and comprador capital, in turn subordinate to central capital. The development of the periphery are thus "ultimately dependent upon the political relations".<sup>38</sup>

In another paper Amin adds on these perspectives where he considers the role of international capital as supreme and the domestic bourgeoisie as basically unimportant. The latter plays a dependent role in the unequal exchange process, where the local (comprador) exploiting classes are mere subordinate allies, in the process of sending profits to the centre, for "that is where their 'responsibility' lies - in their collusion with imperialism. And it is precisely because imperialism profits by this super-exploitation that it operates through these international class alliances".<sup>39</sup>

An analysis of the pioneering works of the dependency school cannot ignore Dos Santos and Cardoso, of whom the former distinguished between colonial, financial-industrial and technological-industrial forms of dependencies in an essay titled "the Structure of Dependence".<sup>40</sup> Dos provided one of the more commonly used definitions of dependence : "By dependence we mean a situation in which the economy of certain countries is conditioned by the development and expansion of another economy... The relation of interdependence between two or more economies ... assumes the form of dependence when some countries can expand and be self starting, while other countries can do this only as a reflection of that expansion. Which can have either a positive or negative effect on their immediate development".<sup>41</sup>

Along the lines of other dependency theorists Dos Santos also labels the relationship between dominant and dependent (or centre and periphery) as an unequal relationship. Yet his more important contribution is his identifying three forms of dependencies. The first is colonial dependence, basically involving outright control and expropriation of valued resources, while the second is financial-industrial dependence. This involves a locally productive economic sector (generally an export sector) which coexists with a subsistence sector which provides labour and resources for the export sector and acts as a shock absorber to unemployment in the latter at times of economic decline, but which benefits little from gains generated by the export sector.

It is Dos Santos' third form of dependence - the technological-industrial form - which emerged in the post world War II period that is interesting. Consider the backdrop to this form of dependence developing. The dependent economy is dependent on the export sector to bring in foreign currency that is necessary for import of machine/industrial equipment etc. The export sector is often under the control of foreign capital; price of exports, volume etc. are all controlled by foreign interests. Much of the profits accrues to foreign capital, with only a small chunk left to the dependent economy. The dependent economy is then on a direct path to the reproduction of backwardness.

The dependency scholars touched upon thus far faced a fair share of criticism and as a consequence a "new" dependency school slowly developed; of which Cardoso's ideas<sup>42</sup> were the most enduring. In brief while the focus of research (the Third World), the basic concepts (core-periphery), implications (deterimental to development) and the scale of inquiry (national level) were the same between the 'old' and 'new' dependency studies, the differences cropped up in the methodology - here Cardoso preferred a historical-structural approach-treating dependency as a socio-political phenomena which taking the form of 'dependent-associated developed' can coexist with development.

While structures of dependency exists<sup>/</sup> at the global or international level, following C. Wright Mills and Pablo Gonzales Casanova, Gunder Frank points out that at the sub-national level also such structures do exist.<sup>43</sup> Just as underdevelopment occurs between nations following a metropole-satellite relationship, regional and sectoral development-underdevelopment cleavages occur within countries, often more markedly in the latter.<sup>44</sup> Such relations termed 'internal colonialism' vary in terms of severity between countries, being more severe in developing countries<sup>45</sup>, draw sustenance from capitalism and are actuated through extraction of bank deposits, and of profits earned by primary exports from the periphery to the national core and by unfavourable terms of trade, commercial monopoly, political control<sup>46</sup> etc.

Frank's internal colonialism framework has been well elaborated by Hechter<sup>47</sup> in which the British Isles's core, i.e., England's relations, with the peripheries - Wales, Scotland, Ireland and Ulster are analysed. The core treating the periphery as an colony permeates into several aspects : not only economic and political but also cultural. An unequal distribution of resources between the core and peripheral groups<sup>48</sup> results in enclaves of development and hinterlands of relative backwardness, Hecter holds, and although Britain was one of the earliest industrialized countries, certain parts almost totally escaped industrialization while others were only partially transformed by industrial production between 1851-1961.<sup>49</sup> The path of development that resulted in the fringes were different from those that would have endogenously developed<sup>50</sup> since the 'national division of labour' guided the specialization (largely of primary commodities) in the former.<sup>51</sup>

The extent of regional inequality and degree of operation of the internal colony patterns naturally vary between countries and "there is no hard and fast line which can be drawn between the three multi-dimensional concepts colony, internal colony, and peripheral region".<sup>52</sup> Hecter's work inspired a substantial interest in the theory of internal colonies.

A slight deviation from the dependency literature is necessary at this stage. This stems partly from the emphasis on primary exports from the periphery given in the dependency and

internal colony frameworks. While the core industrializes, the periphery is made to remain content with marginal industrial development ('light industrial activity' in Amin's terminology) and, more importantly, the export of primary products. Given the importance of the primary export sector and the objectives/nature of this study a look at the export base theory, is necessary.

Douglass North<sup>53</sup> unsatisfied with the development route of the USA as explained by the theory of regional economic growth, propounded that the rate of growth of a region was directly linked to its successes in the export sector. Regions developed initially with one or two exportable commodities and once requisite infrastructure - transport costs for one - developed the region's export base would get widened. Once regions centred around the export base grew up, external economies developed which in turn improved the competitive costs of the export items. Development of marketing facilities, improved credit and transport facilities, skilled labour and complementary industries would result oriented to the export base. The export sector would thus have a "residential" effect on the rest of the economy, in that the basic or export sector would generate developmental and growth impulses on the non-basic or residential sector (North uses 'residential' to indicate industry oriented to meet local consumption and the local market, as distinct from the export sector from which demand and the market is exogenous).

North holds that the export sector is strong enough to determine the rate of growth of a region, starting with income growth, increased purchasing power and consumption patterns that spread from being reinvested first into that export sector and later to subsidiary industry. Such a trend is compounded by improvements in the transfer costs making the exports more competitive and causing an influx of capital, and in it a whole gamut of supportive activities that support and in turn are supported by the export base, viz., wholesaling, specialised banking, business services, brokerage etc. while North, and Stabler<sup>54</sup> emphasised the importance of exports in regional growth, Tiebout<sup>55</sup> pointed out that exports were not necessarily the most important growth catalyst and states that even with declining exports activity there could be rising regional income.

Both dependency and export base framework have not been free from criticisms.

Forbes<sup>56</sup>, presenting a review of the criticisms levelled against dependency theories, cites Brenner's<sup>57</sup> main contention against the school that while both the dependency school and Adam Smith considered market forces, the former approach held that specialization (through the increasing international division of labour) causes development at the core and under development at the periphery whereas Adam Smith saw market forces bringing about increased specialization and therefore capitalist economic development.

Secondly, as Forbes notes, dependency theories were not able to adequately explain the causes of underdevelopment. The theory essentially held that "the integration of the world system led to a transfer of economic surplus from the colonised, and, later, underdeveloped regions to the coloniser or core regions and nation states"<sup>58</sup> and that the processes of development and underdevelopment "were two necessarily integrated sides of the same coin".

Such a reasoning entails the notion that the dependent social formations were 'passive victims' of the world system, which was the single main determinant of their internal economic and class structure. Thus the dependency framework failed to recognise :

- (i) the significance of Third World histories, particularly class formation, and
- (ii) the significance of the resistance to colonialism by the dependent societies.<sup>59</sup>

Generally criticisms have been levelled on two counts. First in terms of the scale of analysis, some critics hold that explanations of underdeveloped conceived solely at macro level are oversimplistic and involve excessive abstract theorisation. Secondly the causes of underdevelopment have not been fully explained. This is because not only have the aspect of class

formations been ignored but also because the various forms of appropriating surplus within peripheral social formations have not been dealt with in enough detail.

Forbes, however follows this with contending that such criticisms are unduly harsh and that<sup>60</sup> :

Seen as a contemporary attempt to transform conceptions of imperialism into a theory of underdevelopment, it becomes apparent that the key problem of the dependency and world systems schools is that they are only partial explanations of socio economic change in peripheral capitalist social formations".

Like the dependency perspectives, the export base theory is also not without its share of criticisms.

First, while the theory typifies a region with a strong export sector, and holds a fast growing region to be a net exporter of capital, in truth such a region would require to import capital to a considerable extent (particularly during the phase of economy building) and would have an import surplus rather than an export surplus.

Secondly, the theory appears to have too much of a preoccupation with demand considerations, operates in single region rather than a inter-regional framework and affords difficulties in defining and measuring exogenous income.<sup>61</sup> While the classic works considered exports alone to forecast regional

growth, some later theorists saw the difficulties inherent in such an outlook and included a few other criteria<sup>62</sup> as well to forecast regional growth. Finally, the model being single region or two-region in scope rather than compage, cannot be applied to simultaneously explain the growth in several regions.<sup>63</sup> This is problematic since the exports of a region are a function of incomes in other regions while the incomes of the other regions would be influenced, to some extent by the imports of the former region in question, which again are a function of its income. Thus it is difficult to understand regional development or regional growth in a 'closed' one-region or two-region framework. However, these drawback of the export base theory do not mean that it is a useless concept for planning or predicting regional growth, only that its limitations are to be kept in mind when it is employed.

## 2.2. Studies Relating to the NER

While literature on dependency perspectives has been substantial, Indian scholars, particularly geographers have come up with limited output on spatial issues of development.<sup>64</sup> This deficiency is all the more pronounced when studies pertaining to the north eastern region of India are considered. However, for the country as the focus some literature does exist. Kidwai<sup>65</sup>, points out that rather than being spatially integrated, the economy was subjected to processes of underdevelopment in which spatial fragmentation and accentuation of centrifugal processes resulted, and that the later processes of post-independence urbanisation and industrialisation that were built on the basis

of a colonial foundation led to regional disparities in development. Bardhan holds a slightly different view, that the mis-managed public sector along with insufficient public investment has stunted India's economy.<sup>66</sup> Numerous other contributions exist<sup>67</sup>, however in terms of the present study, few studies<sup>68</sup> have interpreted dependency in the regional context. ✓

Studies pertaining to the north eastern region relating to the dependency and internal colonial framework and the base theory are quite limited, though not totally absent. Misra<sup>69</sup> was one of the pioneers in this regard. She points out how the tea, plywood and the petroleum industries have been poorly used to Assam's advantage. Goswami<sup>70</sup> works along much the same lines. Gohain<sup>71</sup>, points out that the current problems of Assam are largely due to its colonial underdevelopment. Such sentiments are echoed by Barua<sup>72</sup> as well, who points out that the emergence of insurgent outfits are due to feelings of neglect at the hands of New Delhi. Barua<sup>73</sup> shows how the 'sons of the soil' are kept out of certain employment avenues, while Hussain<sup>74</sup> makes indirect references to how the tea, oil and plywood industries have hardly improved Assam's economy. Das's<sup>75</sup> work stresses much more on the classical dependency framework pointing out how Assam has been 'neglected' at the hands of the core showing how from a baby refinery to the bridge over the Brahmaputra were "gifted" to the state only after popular agitations demanded such benefits. Barua points out how the oil industry have been siphoned out of the region<sup>76</sup>. Apart from scholars of this region pointing a finger at

the centre's neglect of the region works by other scholars have also attested to this trend.<sup>77</sup> However literature relating to the region has focussed more on Assam, rather than the other sister states or even the region as a whole; such attention in past is due to the internal colony theory applied to Assam at the height of the Assam agitation (1979-85) when the 'neglect at New Delhi's hands' theory gained currency following Misra's work referred to earlier.

Although there have been comprehensive attempts<sup>78</sup> in the historical as well as in the post colonial contexts<sup>79</sup> till date comprehensive studies on the underdevelopment of the region are lacking. Although the works of Misra (1980) and Goswami (1981) deal with regional export sectors, they do specifically deal with the export base theory, which is yet to be considered in the context of the north eastern region.

The need for the study of the north eastern region and the development/underdevelopment or its internal colonial type development in the light of the relatively limited work already done is keenly felt. Though Misra's "Assam : A Colonial Hinterland" remains a classic work, it needs to be built upon since it is now quite dated and also because a broader perspective at the regional level (and also within the region itself) is required. Moreover since the export base theory is yet to be applied to the region, a study considering the developmental gaps in terms of the base theory seems in order.

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## CHAPTER III

### DATABASE AND METHODOLOGY

The search for truth or reality forms the core of all research and scientific studies. Truth can be ontological as well as epistemological meaning thereby that something is true in itself irrespective of the context, time and other parameters or that it is vulnerable to various interpretations depending one's approach or methodology. Although these two dimensions of reality may be seem to be contradictory and seemingly caught in the suspended animation of an either-or situation, that truth is an ontology which remains elusive and adventitious in the absence of an efficient or appropriate method is undeniable. An appropriate method, once conceptualised, should be capable of being translated to temporal and extra-temporal dimensions in such a way so as to maintain the umbilical relations between the truth that emerges from a specific context and the general. At the same time, the nature of the being, i.e., ontology, along with its specific attributes lays down certain conditions for the appropriation of specific epistemological tools, popularly known as the choice of methods and techniques.

In the present context as the title, objectives and hypothesis suggests, the essence of the thesis is complex and multidimensional; one that is susceptible to a variety of interpretations and political or ideological standpoints. Given such considerations an objective and factual methodology is

imperative. As such the methodology adopted for this interdisciplinary subject has progressed through different stages, viz., selection of indicators, combining the indicators into sectors, and combining these sectors into an entity and from that entity developing a regional structure.

### 3.1 Data Sources

The data sources, generally secondary, included data at the district, state and regional levels :

- (i) District level data were collected for the 60 districts as they existed in 1991. Published sources consulted were the Centre for Monitoring Indian Economy's Profiles of District, November 1993, the Census of India, 1991 and the publications of the Directorates of Economics and Statistics of the seven states of the region. Nonetheless serious information gaps were encountered particularly in the lack of uniformity of data from state to state. Information relating to specific indicators, for instance, fertilizer consumption for a few districts were unavailable and naturally had to be dropped from the study. Such gaps were overcome either by excluding certain indicators or by selection of surrogate indicators where possible.

The years of reference are slightly problematic. In some indicators 1991-92 are the reference points - fertilizer consumption for one, in other cases particularly

relating to banking statistics recent information for 1993 was available, whereas of course for land classification data the reference point is 1985-86. For the sake of comparability data relating to 1991 are considered, at times this entailed leaving 1993 data (for banking statistics) to prefer 1991 data; in terms of landuse data there was no alternative to the latest agricultural census year, i.e. 1985-86. Generally most indicators are for 1991, or for that financial year and only the landuse data is an errant case.

The following indicators have been selected :

1. Workers in agriculture and allied activities as % to main workers
2. Net sown area as % reporting area
3. Fertilizer consumption per cropped hectare
4. Per capita foodgrain production
5. Per hectare bank credit to agriculture
6. Per capita value of output of major crops
7. Rural literacy
8. Road length per 100 square kilometres
9. Post offices per lakh population
10. Bank branches per lakh population
11. Per capita bank deposits
12. Per capita bank credit
13. Per capita bank credit to small scale industries
14. Per capita bank credit to industries
15. Workers as % total population

16. Workers in manufacturing (non household) industries as % of main workers.
17. Workers in non household industries as % of main workers
18. Population growth per annum
19. Urbanisation
20. Urban literacy
21. Percentage area under forests

(ii) State level data relating to the sectors of agriculture, industry, infrastructure and population were collected from sources such as NEC's Basic Statistics of the North Eastern Region (1980, 1985, 1992), CSO's Annual Survey of Industries (1987-88 and 1992-93), Census of India (1971, 1981 and 1991) and RBI Bulletins. As far as possible such data at two periods, viz. (a) the late 70s and (b) the early 90s were collected. In addition Plan documents and Finance Commission Reports were consulted.

(iii) Regional Level data for three sectors of the regional economy : tea, petroleum, and forests were collected from the Tea Board of India, CMIE's "Current Energy Scene in India" (1994), Director General of Commercial Intelligence and Statistics, (DGCIS) Calcutta publication on "Inter State Movements/Flows of Goods by Rail, River and Air" (1994) and the Transport Survey & Planning Cell's (Government of Assam) "Report on Movement of Goods Traffic by Road in Assam 1987-88".

## Primary Sources

Primary data relating to volume of movement of forest produce from the region by roads was collected from the office of the Range Officer, Srirampur, Assam.

### 3.2 Methodology

The Methodology adopted can be broadly divided into (a) Statistical Methods and (b) Cartographic Methods.

#### (a) Statistical Methods

When an attempt to ascertain levels of development is made, as in the present context, making do with any single indicator is impossible. Thus 21 indicators were selected. Here it needs to be noted that although the terms 'indicator' and 'variable' are not infrequently used interchangeably, there are basic differences between the two. While the latter refers to statistical information this is susceptible to change, the former refers to the transformation of a variable such that it can indicate or point out some trend. Thus while an indicator can be understood as a combination of fact (data) and matter of relations (theory) a variable may or may not indicate the relevant phenomenon<sup>1</sup>. In choosing indicators, the researcher has to make sure that all sectors or components of the phenomenon analysed are represented, in this case the level of socio-economic development of the region. Selection of indicators was to an extent constrained by the lack of comparable data at distinct level and while direct indicators were usable in certain cases, in other cases, surrogates to the most desirable

indicators had to be used. For example per capita consumption of electricity electrification of villages or power consumption are useful indicators of development; in the absence of these surrogates such as urbanisation or rural literacy were selected. Since the attempt is to differentiate levels of development, indicators of 'backwardness' if any, had to be inverted before use. Thus the reciprocals of the two indicators, percentage of workers in agriculture and allied activities to total workers and population growth per annum, were used.

The 21 indicators were divided into smaller sectors in two stages. In the first stage they were divided into four sets, each representing different aspects of development, as below :

- |  |  |
|--|--|
| 1. Indicators of Levels of Resource Development        | 1. Rural Literacy<br>2. Workers as percentage to total population<br>3. Population growth per annum*<br>4. Urban literacy<br>5. Percentage area under forests to reporting area  |
| 2. Indicators of Levels of Agricultural Development    | 1. Agricultural & Allied Workers as percentage total workers<br>2. Net sown area as percentage to reporting area<br>3. Fertilizer consumption per cropped hectare<br>4. Per capita foodgrain production<br>5. Per hectare bank credit to agriculture<br>6. Per capita value of output of major crops |
| 3. Indicators of Levels of Infrastructural Development | 1. Road length per 100 sq. kms.<br>2. Post offices per lakh population<br>3. Bank branches per lakh population<br>4. Per capita bank deposits<br>5. Per capita bank credit<br>6. Per capita bank credit to SSI<br>7. Per capita bank credit to industries  |

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\* reciprocals used

- |   |   |
|---|---|
| 4. Indicators of Levels of Industrial Development | 1. Urbanisation<br>2. Per capita bank credit to industries<br>3. Percentage workers in manufacturing to total workers<br>4. Per capita bank credit to SSI |
|---|---|

At the second stage the 21 indicators were divided into three sectors each representing various stages in the route to development. Indicators may be indicative of the result of development, for instance, urbanisation or increased per capita foodgrain productivity; indicative of the process of development, viz., fertilizer consumption per hectare or indicative of the potential for development, viz. rural literacy. Thus we have :

- |   |  |
|---|--|
| 1. Indicators of the process of development   | 1. Percentage area under forests to reporting area<br>2. Fertilizer consumption per cropped hectare<br>3. Per hectare bank credit to agriculture<br>4. Workers in manufacturing as percentage to total workers<br>5. Road length per 100 sq. kms.<br>6. Post offices per lakh population |
| 2. Indicators of the potential of development | 1. Rural literacy<br>2. Net sown area as percentage reporting area<br>3. Per capita bank credit to industries<br>4. Bank branches per lakh population<br>5. Per capita bank deposits<br>6. Per capita bank credit<br>7. Per capita bank credit to SSI                                    |
| 3. Indicators of the result of development    | 1. Workers as percentage to total population<br>2. Population growth per annum*<br>3. Agriculture and allied workers as percentage to total workers<br>4. Urban literacy<br>5. Per capita foodgrain production<br>6. Per capita value of output of major crops                           |

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\* reciprocals used

## Grouping of Indicators

While the sectors do not represent watertight compartmentalisations they reflect the important attributes of development in the NER.

## Resource Base

Resources have been secularly considered as the necessary condition for all development. According to Ricardo the initial factor endowment of any production or development are resources.<sup>2</sup> Resources at any given point of time for specific reasons will depend upon their physical availability, cultural viability, economic feasibility, technical accessibility and environmental sustainability. Paucity of data presented serious problems in ascertaining these. Nonetheless the process and trend assessment of resources were obtained with surrogate and substitutive indicators.

Six indicators have been chosen. Considering the importance of forests to the regional economy and the socio-cultural importance attached to it, it has been selected. Along with this both urban and rural literacy which play an important role in the humanization and utilisation of resources have been selected as indicators. Given that resources need a human input, for without this they would be mere potentialities or endowments, the proportion of working population is considered. While it is true that man is the resource utilising agent, that too large numbers eat into the sustainability of resources is equally true

and nowhere is it more applicable than in the north eastern part of India, where the mosaic of hills, plains and plateaus have limited carrying capacity under current conditions of technology. The need to consider the rate of population growth was obvious.

#### **Infrastructural Base**

A utopian resource base means very little in the absence of a proper infrastructural base which provides the framework, the basis of resource utilisation. The colonial tea planters who established tea estates in the middle of malarial jungles and set up an oil refinery in 1889, soon felt the need of an efficient transport system. Today an infrastructural base in the NER considering its location at the periphery of the Indian mainland is all the more important. Roads per unit area were chosen since this is by far the most important means of communication in the region, given the limited spread of railways and airways. The spread of railways, however limited, in the region would have been a useful indicator, yet considering that it is confined mainly to the Brahmaputra valley, it was left out. The same was the case for telegraph offices, compounded by difficulty of data availability. As a surrogate post offices per unit population was used.

Since financial inputs are important inputs to agricultural and industrial success, credit to SSI, and to industries were considered. The ratio of credits and deposits are an index to the well being of an economy, both per capital

bank deposits and bank credit was included. Finally the number of bank branches was included, and to compensate for spatial variations in population densities that prevail in the region, this was considered per unit population.

#### Agricultural Base

Land is the basic gift of nature, the canvas cloth to be laboured upon, to reap agricultural dividends. Nothing could be closer to the truth in the NER where level land for settled cultivation is at a premium in the hills and is increasingly coming under pressure in the valleys. The sown area largely reflects the availability for cultivation, yet in itself is an insufficient indicator of agricultural development; the quantum of inputs like fertilizer use, investment in agricultural operations and the productivity in quantitative and qualitative terms require consideration. Thus, net sown area, fertilizer consumption per cropped hectare, per capita foodgrain production as well as value of output of major crops per capita were chosen. Since institutional finance is a valuable input to agro-operations and indicates the extent of commercialisation of agriculture, per hectare bank credit to agriculture was included in the study.

Given that greater number in agriculture do not necessarily indicate its healthiness and can, on the contrary, point to either a saturation or lack of diversification of the other sectors of the economy, the reciprocals of the percentage

of agricultural and allied workers to total workers has been used.

Two other variables : unit area under irrigation and area under shifting cultivation would have been desirable indices; unavailability of district level data inhibited their utilisation.

### Industrialization

Industrialization is represented by four indicators. These are per capita bank credit to industries and SSI sector, proportion of workers in the manufacturing sector to total workers and urbanisation. The last indicator is often cited as an indicator of not only industrialization but development as well while another contention being that in developing countries urbanization supercedes industrialization and therefore it cannot be an indicator of industrialization. However, since most industries in NER as well as in the rest of the country are located in urban areas, in this study it is used as an indicator of industrialization. Other suitable indices would have been the value of industrial output and the proportion of its contribution to gross domestic product<sup>3</sup>, but here again unavailability of data for most of the region's sixty districts was the constraint.

### Indicators for Dynamics of Development

The concept of development/underdevelopment presupposes a shift in the path of structural advancement from low levels of

productivity, spatial interaction, sectoral and regional interdependence to higher levels and more complex economic and structural factors. In this process the role of resource base, the choice of technology, institutional arrangements, level of productivity, movement of factors and sectors over space as well as the environmental and historical factors play an important role. The NER in this context represents an example of both continuity and change. As mentioned earlier the process of "modernization", "development" and "underdevelopment" was initiated by the British in the last century. The incorporation of Assam in the larger Indian polity and market and thereby to the global market was motivated by less altruistic considerations for its integration and development than for its resource exploitation. However, no domination or exploitation is total and unidirectional<sup>4</sup>, and capitalism as an exploitative system does not involve total exploitation, for this would kill the golden goose and lead to its own decline and disappearance. Thus in Assam and NER while exploitation occurred the colonial powers also constructed certain basic conditions of modernization to facilitate the flow of resources to and fro, and to sustain the pattern of exploitation. After 1947 although the pattern of development underwent significant changes under the planning process, the basic pattern of development built by the British persisted. The 21 indicators selected to explore the potential, process and result of development are loosely defined, considering the historical, social and economic situations of the region. Clearly the philosophical and ideological positioning of

the researcher plays an important role in allowing these indicators to transgress between potential, process and result/of development. For example, while urbanisation is variously considered a result of development<sup>5</sup>, as the cause or process of development/underdevelopment<sup>6</sup> and as a potential indicator of development.<sup>7</sup> Thus the division of the 21 indicators are hardly watertight divisions.

### The Composite Index

Once the indicators and sectors of indicators have been made the problem of combining them into a composite index comes up. However, prior to this the step of making the indicators scale free crops up. There are several ways in which this can be done<sup>8</sup>, however in the present study the method of subtracting each observation from the mean and dividing it by the standard deviation,  $(x-\bar{x})/\sigma$ , which has the advantage of retaining both relative range as well as magnitude has been adopted.

### Assigning Weightages

Various methods are in vogue. One popular method is the non-weightage giving method. This involves not assigning any weights and adding the normalised data and allowing the actual values to be aggregated. This method suffers from the problem of ocular distortions and can result in preserving and promoting the existing bias in the variables or indicators. Another method of assigning equal weights has the similar problem of reinforcing

existing biases. The ranking method, as noted, has its own problems.

However, given the limitations of these, weightages have been given on the basis of factor analysis, of which one branch, principal component has been used. This method which involves generating a vector called the first principal component, that has the maximum sum of squared correlations with the original data.<sup>9</sup> In this method higher correlation is assigned a higher weightage and lower correlation lower weightage. The addition of the group of weighted variables give the composite index for a particular set of variables. To derive the rank in terms of the overall economy the sectorwise composite indices can be treated as a new set of variables, upon which the process of deriving principal components, is again repeated to derive the composite index. Yet such a practice has its own problems.<sup>10</sup> Therefore modified component analysis has been preferred.

In this method the standardised data matrix (X) is replaced by the normalised matrix (X) and the correlation matrix  $R = (\hat{X}^1 - \bar{X})/n$  is replaced by the matrix  $A = (\hat{X}^1 - \hat{X})/n$ , the transformation of variables being carried out by division by mean instead of the standard deviation, as used in principal component analysis.

Using modified principal component analysis 21 indicators were grouped into 4 sets for each of which composite

indicators were computed. These represent the sectors of the regional economy. Similarly indicators were grouped into 3 sets to determine the process, potential and results of development.

Finally to understand intra-regional variations, different levels from the composite indices were identified. These levels were identified on the basis of the method of average range.<sup>11</sup>

#### (b) Cartographic Methods

Among cartographic methods use of the choroplething technique was made. As mentioned above, the average range method was used in delimiting regions.

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8. (i) Ranking Method : a simple method is to rank each variable and then add upto ranks of each variable. The district having the minimum total rank score will give a composite index of the lowest value and represent the maximum development and vice-versa. See Mitra, Asok (1965), "Levels of Regional Development in India, Census of India, 1961", Vol. 1, Part 1-A, Manager of Publications, New Delhi; and Nath, V. (1970), Regional Development in Indian Planning, EPW, Annual Number. However this method "ignores the magnitude of variation between any two regions with respect to any one variable.... Thus rank ordering gives no weight to the magnitude of variation" between two units, as noted in Rao, S.K. (1973), "A Note on Measuring Economic Distances Between Regions in India", EPW, April 23, p.796.
- (ii) A second method is to convert the entire data to an hundred point scale by assigning a score of zero to the least developed region and 100 to the most developed region. The remaining units are assigned scores depending on their arithmetic distance from the two extremes. The different score of each indicator are summed up to derive the composite index. However, the drawback of this method is that a differential of say 25 points between the highest and lowest scores on a particular indicator would give a differential of 100 from this method, with the highest region's score of 60% = 100 and the lowest region's score of 35% = 0. Thus a differential of 25% is elongated to 100%. See Schwartzberg, J.E. (1969), "Occupational Structure and Levels of Economic Development in India : A Regional Analysis", Census of India, 1961, Monograph Series No. 4, Manager of Publications, New Delhi.
- (iii) Another method is to take the ratio of the deviations of each observation from the mean and divide it by the standard deviation. However a shift in the origin occurs and this distorts the relative position of an observation. Also the variance and the dispersion of variables is disturbed.
9. This involves constructing a correlation matrix R from the original variables, deriving the eigen values (which are the measures of relative importance of each component) of R normalised to unity, determining the percentage of explained variation. Converting the original variables into scores and using these elements given in the first eigen vector as weights to derive the weighted sum of the standardized scores for each observation. These values so derived are the first principal components. In the present study only the first principal component is used, although 'n' number of such components could have been derived.

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11. Ibid., p. 130. The average range is derived by subtracting the highest value from the lowest value and dividing by the mean. This value can be multiplied by a constant depending on the number of levels/classes required.

## CHAPTER IV

### EVOLUTION OF REGIONAL ECONOMIC STRUCTURES

The current economic structure of the north eastern region was moulded from a base that existed in pre-colonial times and one that was powerfully and, in some respects, irrevocably shaped and given new directions under British rule. If a proper understanding of the former is sought a beginning must be made with an analysis of the pre-independence regional economy.

Prior to 1826 the regional economy was barely monetized, dominated by barter and the small volume of trade that existed was not an integrated one between the hills and plains.

In the hill areas trade was outer oriented towards Tibet and Burma. The hills and plains were not strongly integrated in terms of trade-links. <sup>One</sup> reason behind this state of affairs was the difficult topography of the region which did not permit easy accessibility and interaction between the hills and plains ; road and river transport existed, but naturally these were poorly developed and the basically subsistent economy neither required nor permitted development of transport and communication. An industrial base was virtually non-existent, the population base of the region was small and even the Brahmaputra valley, let alone the hill areas around it, were covered with dense malaria prone jungles. The people and the economy were like

the transport linkages. slow moving almost lethargic, and unconcatenated.

The advent of the British in 1826 was to cause dramatic changes and nothing typified the impact as much as the genesis and evolution of the tea industry in the region. So much so that tea and the evolution of regional economic were inseparably and symbiotically linked. The tea industry necessitated developments in the transport sector, in the regional demographic structure and in the land revenue structure of the Brahmaputra valley and its impact was reflected in colonial administrative policy both in the plains and in the hills. The nature and effect of British rule has been elaborately dealt with elsewhere<sup>1</sup> and the present section need only provide a brief outline of the impact of the tea industry on the regional economy upto 1947<sup>2</sup>.

#### 4.1 Genesis of the Tea Industry

Although the tea industry was to have a great bearing on the regional economy, its origins were adventitious. It was discovered by chance in 1823 as growing wild in the forests of upper Assam by Major Robert Bruce of the East India company. This discovery along with the loss of British monopoly of the tea trade with China in 1833, necessitated attempts to start tea cultivation in Assam and the first government tea garden was started near the confluence of the Brahmaputra and Kundil rivers<sup>3</sup> at the north eastern corner of the district of Lakhimpur. the porous soil of this area was however not conducive to tea

cultivation and the plants had to be shifted to Jaipur, about 20 kilometers south of Tinsukia, where a new tea garden was started and its management was handed over to the Assam Company in 1840.<sup>4</sup>

During the initial period the fledgling industry had to face numerous problems, but gradually the affairs of the Company and those of the industry improved. In 1859 the Jorhat Tea Company was formed and by that time about 8000 acres of land were brought under tea cultivation in Assam with an output of 1.21 million pounds<sup>5</sup>. Soon after tea gardens spread to neighbouring areas of upper Assam, Kamrup and Cachar. However with the winds of speculation blowing rife and land being recklessly taken up with the sole objective of sale to the tea companies at a profit, irrespective of suitability of the land for tea cultivation and availability of labour, the mushroom growth of tea companies and speculation in worthless estates led to a slump between 1866-69<sup>6</sup>

The slump was soon tided over and the tea industry made steady progress. In terms of acreage and production the plantation sector grew from 25,000 acres under plantation and 4.7 million pounds production in 1869, several times in magnitude to production over 230 million pounds in 1920 from 420,000 acres<sup>7</sup>. Colonial policy was geared heavily in favour of the tea industry. Large tracts of wastelands were made available to colonial planters under liberal leasehold grants by the government<sup>8</sup>. The colonial government supported the planters in all possible ways - from the development of transport lines to enacting tough

regulations by which indentured labour remained enslaved to the estates and by introducing a land revenue system.

#### 4.2. Land Revenue System

In engendering the tea industry to compensate for losses incurred as a result of the disruption of British monopoly of tea trade with China, the mechanism the colonial government hit upon to attract European planters to Assam was in essence a simple one : raising the land revenue on agricultural land to an extent so as to pauperise the peasantry and reap the two fold benefits of a) deriving premium tea lands at rock bottom prices, and b) getting the impoverished peasantry to work as labour in the tea plantations.

While the former objective was easily achieved, the latter - put it down to a combination of the reluctance of the local population to meet the demanding physical requirements of the tea estates and the marginal wage differential between wages paid to tea labour and the contemporary agricultural wages - was not achieved.

The British introduced land revenue in an economy that was not, till then, fully monetized, and then followed this up by hiking up the revenue rates catastrophically<sup>9</sup>. The rates were increased by 481 percent between 1825 and 1850<sup>10</sup> in a bid to pauperise the peasantry.

In fact a British historian noted that "planters naturally stigmatised the local inhabitants as lazy since they would not work on tea gardens. What is more surprising is that they had the support of some district officials in suggesting that the land revenue should be raised so that economic pressure would force cultivators to work on tea gardens".<sup>11</sup>

When they failed to induce the local population as tea labour the British introduced retail trade in opium, made it freely available throughout the province, with the intention of driving the people into wage labour or aiming at addiction keeping down the wages in tea gardens<sup>12</sup>. Revenue from opium jumped from Rs. 1982,000 in 1905 to Rs. 4412,000 in 1920<sup>13</sup>. Yet attempts to compel the local population into wage labour in the estates having failed the colonists resorted to the inevitable - importing labour from outside.

#### 4.3 Import of Labour

A series of planned migration waves from central India were necessitated by the tea industry the impact of which was to remain indelible. The seeds of a demographic 'shift' were sown and over a span of half a century nearly two and a half million labourers were imported.<sup>14</sup>

In the absence of any controls on recruitment of labour during the incipient stages of establishment of the plantation system in Assam, tea gardens imported labour depend on their

individual requirements. Also, due to appalling living conditions and the ever present menace of epidemics mortality rates were very high and actual survival rates are unavailable. Given such circumstances, no authentic records as to actual volume of import of labour exists. However, one estimate puts the figure at an annual average rate of recruitment of 30,000 labourers between 1859 to 1910. For 52 years this comes to 15.60 lakhs, which coupled with the next four decades amounts to a total of about 32 lakhs, which is scaled down to nearly 24 lakhs leaving aside the stream of migration to the Sylhet tea gardens (in Bangladesh) and repatriation of labour upto 1950. Since profit - maximization was the sole motive, the colonial masters made the indentured work under appallingly poor conditions, often causing high mortality rates in the tea estates and also en route to the estates from central India. The colonial powers often used coercive methods to retain the labour once brought into the estates. Labourers were maintained at near subsistence levels of wages, barely enough for them to survive, on a logic that if the "coolies" were paid better wages it would make them indolent<sup>15</sup>. Often these hapless peasants of central and eastern India had to go through a harrowing process of having their lands alienated, their pre-capitalist economies set in the process of disintegration and by inducement and force, of being brought to the plantations in Assam<sup>16</sup>.

The impact of this colonial policy of importing labour remains till today and the 'tea labour' and 'ex-tea labour'

population, as they are referred to, constitute an integral element of the multi - ethnic and multi - cultural mosaic of Assam's population. They have adopted the local language and culture and have easily been assimilated with Assamese society.

#### 4.4 Colonial Investments in the Regional Economy

Prior to the coming of the British the local economy was not fully monetised. "The Assamese had very few wants they lived principally upon rice and were clothed in their own silks and cotton and none of them had ever been traders".<sup>17</sup> With an inner oriented economy investments in transport and other sectors were extremely marginal. This changed with British mercantile interests and they pumped in money, monetized the economy and linked the feudal pre-capitalistic society to the world system.

Guha<sup>18</sup> has estimated that the British invested at a rate of Rs. 600 per acre of tea plantation amounting to Rs. 18.6 million in 1871 from Rs. 4.8 million in 1859. The period, he noted, was one of hectic investments on the part of British imperialism in its drive for exploitation of colonial resources.

However these investments were easily offset by the revenue concessions enjoyed by the planters over thousands of hectares of land under plantations they occupied, which amounted to several crores of rupees<sup>19</sup>.

Considering investments at an enhanced rate of Rs. 1000 per planted acre to adjust for investment costs of tea processing machinery it has been estimated that investments amounted to the tune of almost Rs. 200 million between 1860-1901<sup>20</sup>. Related to tea were investments in railways, coal, petroleum, saw-mills, telecommunications, roads which, at conservative estimates amounted to about Rs.200 million between 1881-1991 or about Rs.10 million annually<sup>21</sup>.

Yet not only were British investments amply compensated by concessions planters were given in terms of land revenue, but also "only a small part of the total investments in tea appears to have been supplied by Britain's home savings"<sup>22</sup>. On the other hand most of the investments came from the undistributed surplus and ploughed back dividends of old tea companies like the Assam Company (1839-1953) and the Jorehaut Tea Company (1859-1946).

In addition there were investments made by the white collar class of British district magistrates, police officers, military officers among others who opened up tea estates after only a few year's service in India, ostensibly from unscrupulous means<sup>23</sup>. The Assam Company which had an initial investment of Rs.2 million and never raised any more capital thereafter, could still triple the acreage from 3313 acres in 1854 to 10,762 acres in 1901 (this would require at Rs.1000 per planted acre an additional Rs. 5.6 million) and over and above this make a profit of, Rs. 9 million, which was disbursed as dividend<sup>24</sup>.

Instead of a flow of capital from Britain to Assam, a reverse flow of profits well in excess of initial investments from the plantations to Britain appeared closer to reality. The profits British tea companies, old and new could enjoy was a result of the extraordinarily negligible land revenue and taxes they paid combined with the low wages paid to tea labour<sup>25</sup>. Similarly colonial investments in the transport sector, specifically railways, were never a burden on the mother country and more often than not, were (mis) appropriated government and local funds.

#### 4.5 Tea Industry And Transport Development

British interests in developing tea industry as a profitable venture necessitated improving the existing transport network. Railways were introduced in the region, yet naturally the layout and spread of the lines were planned in such a manner as to be of primary benefit to the plantation areas, even if this meant ignoring erstwhile centres of commerce and population. Instances where the planters interests directed colonial government policy in transport development were legion.

Colonial policy was geared towards extracting tea (and utilising related items as coal and oil for the plantations) and what was required were transport networks which linked the plantations to the port of Chittagong or Calcutta for further transfer to the external markets<sup>26</sup>.

At least one result of this policy was that the roads of the region, until then in extremely poor state of maintenance, were improved. More significantly the development of railways took place and it was this medium of transport that was instrumental in achieving the colonial objective.

The need for a faster and more efficient means of transport than that provided by roads and riverways to link the export-oriented tea enterprise with sea ports led to the construction of the two trunk routes - the Assam Bengal Railway and the North East Frontier Railway<sup>27</sup>. Railways served not to extract tea but also to import labourers and foodgrains to the estates and at times for the transfer of the upper Assam coals and oil that estates used as fuel<sup>28</sup>.

Railways even aided the extraction and exploitation of forest produce in the region. whereas in the pre-railway times extraction of wood from the forests was carried out using elephants and thereafter via the riverways, with the introduction of railways in upper Assam saw mills extracted the logs through railways <sup>29</sup> which were introduced in 1882.

The two main rail lines the Assam Bengal Railway and the Eastern Bengal Railway ran through 740 miles of the province and linked the valley with Calcutta and Chittagong ports respectively by the 1920s ; the feeder lines serving the purposes

of connecting the tea estates with the steamer ghats, stations on the main railway lines and the trunk roads<sup>30</sup>.

The trend of development of railways in the region under colonial tea interests were similar to those in the rest of the country, where rail links connecting two interior areas with the metropolitan centres existed while none between the interior/rural areas themselves existed, the network being a reflection of the imperial suction mechanism<sup>31</sup>. Whatever the motive the fact undeniably remained that colonial policy saw a sea change in the regional economy with the superimposition of a modern communication system particularly in the valley. In fact :

"the development of a modern system of transport opening up the remote tea area and linking the province with other parts of India, began as a direct response to the requirements of the tea industry. If the pressure exerted by the tea interests and the government's concern for their welfare initiated the process, its economic viability and subsequent extension were largely sustained by the growth of the industry<sup>32</sup>

Improvements in road and railways also resulted and since the tea industry was the prime factor behind improvements in the transport sector, the impulses of modernisation remained mostly confined to the Brahmaputra valley and to the Cachar district. The peripheral hills area, remained, in Subbarao's terminology, areas of isolation. Commercial interests of the colonial masters did not penetrate as far as the hills, although administrative and security factors did send impulses to such

peripheries yet the magnitude of these vis-a-vis the Brahmaputra valley were almost insignificant. Herein lay the seeds of the pattern of development that was to be found well into the second half of the twentieth century.

#### 4.6 Changes in the Pattern of Trade

Prior to the coming of the British negligible volume of trade in agricultural items, muga silk and salt existed with Bengal and Assam and in agricultural items and utilities such as cloth, raw wool, cattle, pigs between the hills and neighbouring countries like Tibet and Burma. Trade between Assam and Tibet, though marginal also existed. When colonial interests in tea developed the volume and composition of trade underwent significant change. Also these resulted changes in the pattern of hill-plains trade, and in place of inter-country trade across Arunachal Pradesh and the Tibet-Burma-Bhutan trade links, greater trade as a result of economic integration, took place between the hills and the plains.<sup>33</sup> However, the maximum changes occurred in the trade pattern of the Brahmaputra valley, which until then had a negative trade balance. With the development of the tea industry the balance became positive as exports far outvalued imports solely due to the exports of tea from the region<sup>34</sup>, with tea accounting for 65 percent to 82 percent of the total export value.<sup>35</sup> In a span of three-quarters of a century since the coming of the British, the pattern of trade had undergone remarkable change; particularly since "little or no trade inside

the province existed and the external trade with Bengal was of insignificant proportions.<sup>36</sup>

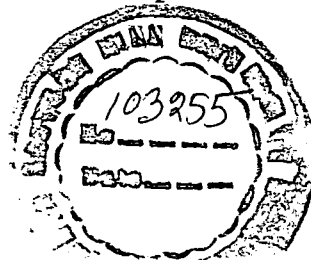
Apart from tea, oilseeds, wood, coal, coke, bell metal lac, cotton raw and manufactured and silk were the main export items. The importance of primary products - from lac to coal mustard seed, ivory, pepper and wood and of course tea - was notable, as was the marked absence of any manufactured goods, barring cotton piece goods. Thus among the imports naturally manufactured items such as metals, Europeans and Indian cotton goods, foodgrains and pulses, salt, gold and silver, cloth, muslin, figured; of these the import of agricultural items such as foodgrain was almost inexplicable :

"It seems extraordinary that a province currently suited for the growth of rice and with an unlimited quantity of suitable land available should not grow enough for its own consumption, and that it should be necessary to import large quantities into Assam from Bengal", as the chief commissioner of Assam noted.<sup>37</sup> While on the whole tea and primary produce dominated the exports within the valley distinct regional characteristics existed. While the Upper Assam districts of Lakhimpur, Sibsagar, Tezpur sub division of Darrang and the Naga Hills was marked by the predominance of tea, the Lower Assam districts of Goalpara, Kamrup, Nowgaon, the Mangaldoi sub division of Darrang and the Garo Hills was marked by the dominance of the traditional agricultural sectors and cottage industries with tea relatively

unimportant.<sup>38</sup> While tea was the 'great divider' between Upper and Lower Assam, in the case of Brahmaputra and Surma valleys tea remained the only commonality. While Sylhet exported paddy, Assam imported it; while the latter exported in addition to tea, mustard seed, jute and lac, the former exported much less tea and only negligible jute, mustard seed or lac.<sup>39</sup>

One notable feature of the trade scenario was that although the volume of trade was slowly picking up, local intra regional trade volume was quite small. Whether this was due to the inability of the local inhabitants or the role of the colonists who through the mechanisms of the plantation sector had transformed the local feudal economy and whose ends would be better realised if and when they could control the valley as a market for externally produced (British) goods - this in turn could be more achievable when intra-regional provincial trade was kept on a shoe-string minimum was, of course, another matter.

How was the enhanced trade volume and opening up of the economy influencing the indigenous population? Apart from tea which was under British control and trade in oilseeds, the Marwari community quickly monopolised almost the entire internal trade<sup>40</sup> and procurement and distribution of export goods like rubber, cotton and pepper and sale of consumer goods was quickly under their control<sup>41</sup>; a pointer to the apparent lack of business acumen and entrepreneurial spirit among the local population. The current paradox that is often posed, that entrepreneurs of the



region are only first generation entrepreneurs, had its roots during this period when the local population were left behind in terms of managing the local trading ventures.

The impact of trade expansion and diversification that occurred in the Brahmaputra valley had some effects on the periphery, i.e. the hills around the valley as well, although to a substantially less degree.

In the hills of Arunachal, habited by a multiplicity of tribes, which were prone to raiding the plains areas for slaves and commodities - much like the Mizos - the British followed a policy of conciliatory isolation, at least during the nineteenth century (although it remains a dubious point whether such policy remained in the present century upto the Chinese aggression of 1962).

However, inspite of occasional raids on the plains it would be incorrect to hold that hostility and warfare remained the hallmark of the nineteenth century and thereafter upto the first decade of the twentieth century as there also existed side by side evidences of mutual understanding and trade relation with the Assam plains.<sup>42</sup> In general however, the policy of the British was to 'leave the tribesmen alone' in view of the difficulties of administering the mountainous and often inaccessible tract.<sup>43</sup> The Inner Line was created by the Regulation of 1873, and this prohibited any entry into the tract by people from outside

without a permit and also prohibited the procurement of forest products by them.<sup>44</sup> The Regulation was enacted not with the intention of isolating the hills and plains in terms of movement of people, rather it prevented the traders from the plains from exploiting rubber and other hill products.<sup>45</sup> These areas included present day Arunachal Pradesh, Nagaland and the undivided Lakhimpur district of Assam, later named the Excluded Area of the province of Assam and were under the charge of the Governor-General, and administered through the Governor of Assam. Restricting movement of the people and traders without licenses caused a decrease in the trade between hills and plains. Naturally the inter country trade at the border areas of Tibet, Burma and Bhutan also decreased.

Prior to 1871-72 only limited trade between the Mizos and their neighbours from Manipur and Sylhet, took place due to topographical difficulties and "insecure frontiers". After 1872 the then Political Officer, a Captain T H Lewin encouraged the establishment of several markets in the foothills of Mizoram such as Tipaimukh (at the confluence of the Barak and Tuipui rivers, Lushai Hat on the Sonai and Jhalmacherra on the Dhaleswari)<sup>46</sup>, thereafter the Mizos gradually became dependent on the produce of the plains - salt, iron, brass and copper utensils, tobacco etc. - from places like Sylhet and Arrah.<sup>47</sup> The volume of trade and its variety increased considerably and and cotton and woolen yarn, brass, enamel, iron tools, daos, cigarettes, matches, soap

among other items were imported while mostly forest products such as bees-wax, cotton, chilly, ginger and oranges were exported .<sup>48</sup>

One result of the opening up of tea gardens by the British was that, "the Mizos considered as a check upon their natural right of hunting, the extension of tea gardens by the English in the forests on the hills of Mizoram".<sup>49</sup> Raiding of plains villages for slaves and commodities had been a practice of the Mizo tribes from time immemorial, and the coming of the British appear to hinder their traditions. Trade with the plains was aided, and like the Brahmaputra valley, the main export items were items of primary produce and products from the forests. Unlike the latter, the volume and composition of trade was not significantly altered.

#### 4.7 Conclusion

Thus the impact of the British seen in terms of the spread of the tea industry, at a broad level can be distinguished between the strong and structural changes it brought about in the Brahmaputra and Cachar valleys and in the marginal impact it caused in the surrounding hill areas. Changes in population, land revenue and transport linkages were significant in the former and barely touched the latter where the interests of the colonial power were only administrative and strategic. In the former these were less administrative and more overwhelmingly commercial and served to monetize the economy, set in motion the process of resource exploitation and link the region with other parts of

India. In the process the physical isolation of the region, until then reinforced by the unmonetized subsistence economy poorly integrated from within, was slowly removed. While colonial rule was not without positive impacts, a few negative features - such as the pauperization of the peasantry due to steep and rising land revenue rates, and the immiserisation and subsistence level reproduction and maintenance of the tea labour also resulted.

While elsewhere in the country the British brought about a process of 'de-industrialization', in the case of the north eastern region it remained a case of non-industrialization<sup>50</sup> and thus while the region exported a large volume of cotton yarn it was made to import externally manufactured cotton textiles, as was true of almost all sectors of the economy and the industrial sector, already starting from a relatively low base never really took off.<sup>51</sup>

The regional agro-base was not substantially better off and even the alluvial tract of the Brahmaputra valley had to import foodgrains to subsist. Yet large tracts had been brought under the tea plantation sector by the colonial powers.

The regional economy presented a scenario of extractive primary product led export growth under colonialism. The export sector yielded handsome profits for transfer abroad although foreign investment was never required to finance expansion of the plantation sector or the related overheads that it necessitated,

apart from an initial investment that was offset by revenue concessions. The development of a dualism between the primary product export sector and the traditional agrarian economy (between Upper Assam and the next of the region) was a feature of the economy's growth dynamics, at the half way mark of the present century when the direct colonial influence abruptly ended.

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## CHAPTER V

### THE CURRENT ECONOMY : STRUCTURE OF NORTH EAST INDIA

#### 5.1 Introduction

The term structure may be defined as a pattern or an observable uniformity, in terms of which action takes place; and the structure of a system deals with the interrelationships among the different kinds, aspects and components of that structure.<sup>1</sup> The economic structure here refers to the various components of the regional economy, such as agriculture, industry, the occupational structure. In addition to these the infrastructural base of the economy has been considered. Although strictly speaking the latter two are not 'structures'. They have been considered since they influence the structure of the economy. Occupational structure reveals the make-up of an economy, whether it tends towards an agricultural or an industrial economy whereas the infrastructural-physical and financial - virtually lays down the base and the basis of the economy and is a way commands the direction along which lines the latter develops.

Since the direction along which an economy is to develop, in no small measure, is influenced by previous patterns of investment<sup>2</sup> the previous chapter analysed briefly how the British influence on regional economic structures developed and how the tea industry moulded the economy. Given this background, the present chapter ascertains how the economy took off during the last two and half decades. The nature of any changes that

resulted, if any, are analysed using state level secondary data at two points of time, a first reference point in the 1970's and a second during the early 1990's.

#### 5.2.1 Structure of the Economy : 1970's

By the 1970's the states of the region were more or less the administrative entities as recognised today. Nagaland had become India's sixteenth state (1963), Mizoram and the erstwhile North Eastern Frontier Agency (NEFA) had graduated to union territory statuses by 1972; by that year Meghalaya had become a full fledged state. That year also saw the constitution of the North Eastern Council (NEC) as an advisory body with the principal objective of promoting balanced socio-economic development of the region.<sup>3</sup> It was a unique experiment in the Indian context of the inter-state regional planning and it was thought that the NEC would promote rapid economic development within the region and help bring about economic integration of the region with the rest of the country.<sup>4</sup>

Thereafter, a tendency of union territories developing into full fledged states saw Mizoram and Arunachal Pradesh attaining statehood in 1987 and the NER now comprised of seven states.

### 5.2.2 Agriculture

The economy of the NER was like the rest of the country largely agriculture with 77 per cent of the total workers belonging to the agricultural sector compared to 72 per cent for all-India in 1971.<sup>5</sup> Arunachal Pradesh and Mizoram had 80.44 per cent and 84.16 per cent of their total work force engaged in agricultural activities respectively. In spite of such a high concentration of work force in the primary sector the region was not self sufficient in foodgrains, a scenario that has persisted till today despite all talk of modernisation and planned regional development.

The emphasis on agriculture was reflected in the area under high yielding varieties (HYV's) which in 1970-71 for all India was to the tune of 15.4 million hectares<sup>6</sup> or roughly 10 per cent of the net cultivated area. For the state of the NER it was estimated to be approximately 708,340 hectares in 1976-77 accounting for 20 per cent of the net cultivated area. However the problem lay with the concentration in Assam and to a lesser extent in Tripura and Manipur, (Table 5.1) which are roughly the plains areas. In the remaining states, the hill areas had not only extremely small areas under cultivation, but also only a small share of this was under HYV crops.

**Table 5.1**  
**Area Under HYV Crops in NER States**

('000 hectares)

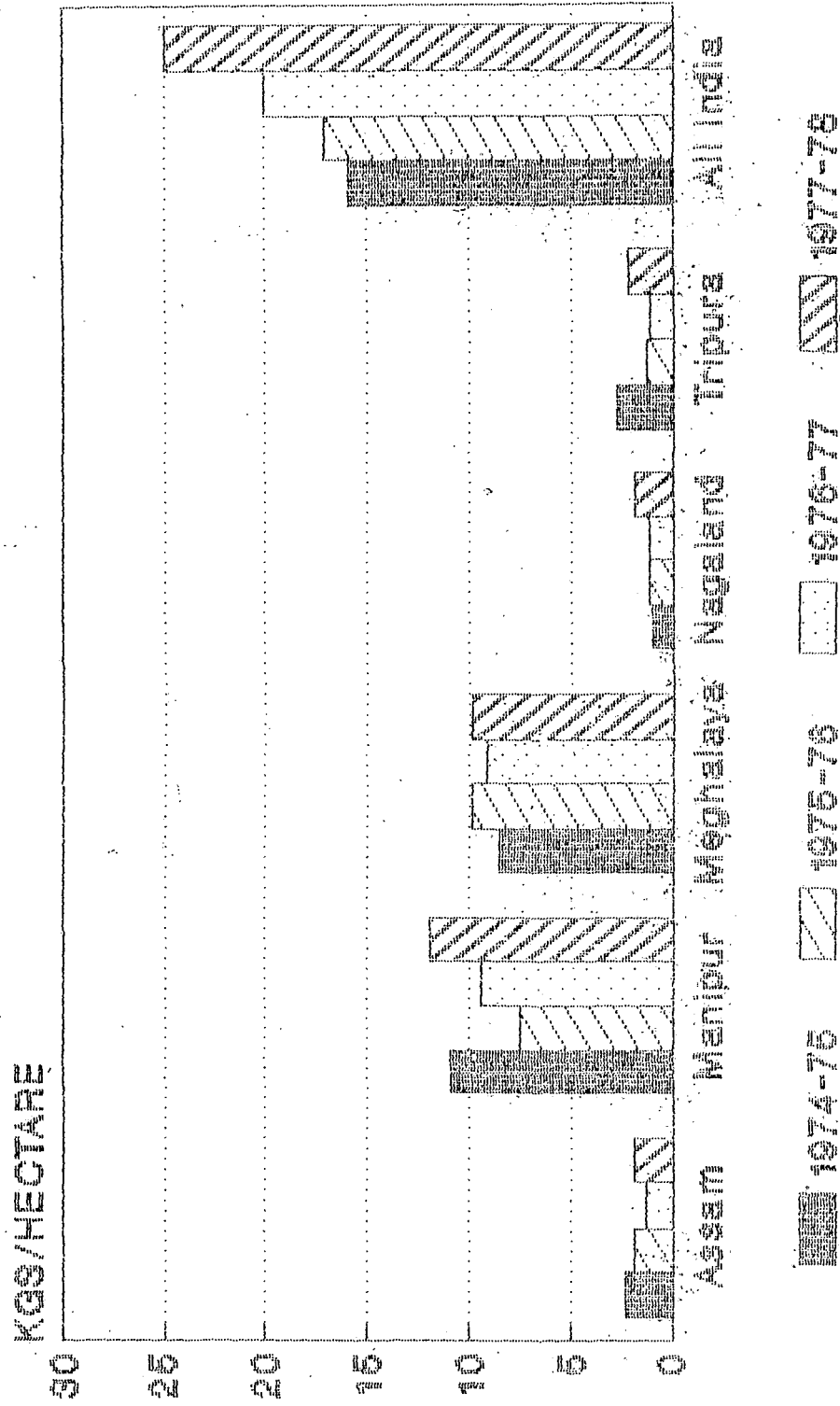
State/U.T.	1973-74	1974-75	1975-76	1976-77	1977-78
Arunachal Pradesh	5.4	6.81	8.67	-	-
Assam	415.0	395.0	399.0	505.0	542.0
Manipur	19.0	36.0	40.2	53.0	57.0
Meghalaya	8.0	10.2	12.5	16.0	21.0
Mizoram	-	2.7	4.0	14.0	-
Nagaland	1.65	2.5	4.43	6.74	9.8
Tripura	53.42	73.58	106.04	113.60	125.0

Source : NEC, Basic Statistics of North Eastern Region, 1980.

If the hills and plains were differentiated in terms of area under HYV crops, in terms of fertiliser consumption there was a picture of complete uniformity for the entire region. The whole region was woefully behind the rest of the country in this respect (Table 5.2). While the all India consumption of fertiliser in 1974-75 was 15.9 kgs/ha, only Manipur with 10.8 kgs/ha was comparable, while the other states logged substantially behind. A possible factor behind Manipur standing head and shoulders above the other north eastern states could be that the area under cultivation was quite small at that time (net sown area was only 140,000 hectares and gross sown area was 208,000 hectares) and barring Mizoram and Arunachal Pradesh it was the lowest in the region.

# Fertilizer Consumption

1974-75 To 1977-78



**Table 5.2**  
**Fertiliser Consumption per hectare of Cropped Area**  
(Kgs/hectare)

State	1974-75	1975-76	1976-77	1977-78
Assam	2.3	1.9	1.2	1.8
Manipur	10.8	7.4	9.4	11.9
Meghalaya	8.5	9.9	9.1	9.9
Nagaland	0.9	1.1	1.1	1.8
Tripura	2.7	1.3	1.1	2.2
All India	15.9	17.1	20.2	25.0

Source : NEC, Basic Statistics of North Eastern Region, 1980.

The positions of Arunachal Pradesh and Mizoram are simply incomparable in terms of the national average. In 1977-78 the former used a total of 80 tonnes of all fertilisers throughout the year while the latter used 90 tonnes. One point that is evident is that the disparities appear to have got accentuated between 1974-75 and 1977-78, in the sense that the all India consumption rates improved at a faster rate vis-a-vis the NER. Similarly the the gross irrigated area for the entire region was slightly below the national average of 20.8 per cent in 1976-77 (Table 5.3). Again two states that were favourably placed in terms of the all India mark, Nagaland and Manipur, is explained not due to the area under irrigation being high, rather due to the gross cropped area being quite marginal and therefore the ratio of irrigated to cropped area appears high. However, in itself this is not a pointer to the poor condition of agriculture in the region - given the high rainfall and the prevailing environmental conditions particularly the high relative humidity. It is an established fact that the region is one of the two wet climatic regions of the country. However, fluctuations in the

temporal and variations in the spatial distribution of rainfall has been largely responsible for uncertainties in agriculture. Over 90 per cent of the total rainfall occurs during summer between May to September and thus despite receiving heavy rainfall the region requires a well developed irrigation system for carrying out agricultural operations throughout the year. The following table shows a comparison between India and the states of the region. It is evident that the region had a negligible share of 2.3 per cent of the country's total irrigated area of 34,799 thousand hectares. This small figure gets further denuded if Assam, which accounted for nearly three fourths of the region's share, was excluded to leave the remaining six states with just 207 thousand hectares or 0.59 per cent of the country's total irrigated area.

**Table 5.3**  
**Proportion of Irrigated Area to Total Cropped Area, 1976-77**  
('000 hectares)

State/Union Territory	Gross Irrigated Area	Gross Cropped Area	Irrigated Area as % Cropped Area
Arunachal Pradesh	23	130	17.70
Assam	572	3311	17.27
Manipur	65	208	31.25
Meghalaya	43	204	21.07
Mizoram	8	105	7.62
Nagaland	38	115	33.04
Tripura	30	386	7.77
NER	779	4459	17.47
All India	34,799	167,112	20.82

Source : Basic Statistics of North Eastern Region, 1980, NEC.

The region did not fare very well in terms of yield of rice, the principal crop both in terms of area under cultivation and in terms of consumption. Table 5.4 also indicates that with the exception of Manipur and Tripura all states have lagged far behind the national average throughout the decade under consideration.

Table 5.4  
Yield of Rice 1972-73 to 1982-83

State/U.T.	(Kgs/hectares)					
	1972-73	1974-75	1976-77	1978-79	1980-81	1982-83
Arunachal Pradesh	877	864	886	1073	1058	1042
Assam	1052	964	933	1022	1109	1122
Manipur	1038	1556	1507	1675	1448	1385
Meghalaya	1135	1066	1199	1224	1338	1140
Mizoram	946	696	626	353	976	771
Nagaland	569	579	1019	1049	898	978
Tripura	650	1091	1117	1234	1356	1423
NER	997	1002	994	1039	1150	1150
India	1070	1045	1088	1339	1336	1231

Source : Basic Statistics of North Eastern Region 1980 & 1985  
NEC, Shillong.

In spite of Manipur and occasionally Tripura having good yields compared to the country's average, the region as a whole showed a slightly increasing gap vis-a-vis all India during the decade, starting the decadal period with a yield differential of 73 kgs per hectare and increasing to 300 kgs/ha (1978-79), to about 185 kgs/ha in 1980-81 and narrowing once more to 81 kgs/ha.

In the few indicators compared, the NER appears as an inferior counterpart to the country's average in terms of

agriculture. The comparison made in the foregoing section is only illustrative and numerous other agricultural indices are necessary for a more complete comparison. That the region's economic backbone is agriculture and that the region is lagging behind the rest of the country is partly attributable to the level of socio-cultural technology available to the numerous tribes which practise shifting cultivation, a practise neither very productive economically nor advisable ecologically<sup>7</sup>, yet it is a practise that has remained, rooted in their culture and equally importantly in their physical milieu. Another factor which has not aided the agro-development is the annual floods that ravage the Brahmaputra and Barak valleys.

### 5.2.3 Industry

In the industrial sector, two large industries tea and petroleum dominated. Apart from Assam where the two sectors are concentrated the region did not have much to boast of. Even Assam did not compare well with the rest of the country. Industrial output amounted to Rs. 540 crores for Assam compared to Rs. 34,091 crores all India in 1976-77 which amounted to barely 1.6 per cent of the national output. Other states like Manipur, Tripura and Meghalaya contributed Rs. 0.82 crores, Rs. 3.95 crores and Rs. 7.3 crores respectively.<sup>8</sup> A similar situation existed in the Small Scale Industries (SSI) sector, with the entire region's position vis-a-vis the rest of the country being rather poor. Within the scenario, Assam had the dominant position in numerical and value terms (table 5.5) although by national

standards Assam was equally insignificant, its contribution being as low as 0.9 per cent of the Indian total in terms of value of output, the regional total standing at 1.1 percent of the national total. While the SSI units in this region formed a very small percentage (1.9) of the total in India, in terms of value added, the contribution was even smaller (1.4 percent). The range within the region stretch from bad, (in Assam's case), to worse, (in the remaining states).

**Table 5.5**  
**Small Scale Industries in N.E. Region, 1971**

State/Union Territory	Total Working Units		Gross Value of Output		Value Added		Employment	
	Number	% to all India	Rs.	% to all India	Rs.	% to all India	Number	% to all India
Arunachal Pradesh	11	-	0.11	-	0.07	-	187	-
Assam	1648	1.2	22.64	0.9	9.12	1.1	19652	1.2
Manipur	485	0.4	3.32	0.1	1.38	0.2	3409	0.2
Meghalaya	165	0.1	1.20	-	0.45	0.1	1188	0.1
Mizoram	61	-	0.30	-	0.16	-	336	-
Nagaland	38	-	0.48	-	0.21	-	446	-
Tripura	246	0.2	1.45	0.1	0.54	0.1	1698	0.1
N.E. Region	2654	1.9	29.50	0.1	11.93	1.4	26910	1.6
All India	139577	100.0	2602.75	100.0	841.00	100.0	1653178	100.0

Source : Basic Statistics of North Eastern Region, NEC, 1980.

Most of the SSI units were located in Assam (62 per cent), Manipur (18 per cent) and Tripura (10 per cent); the hill states again remaining in a disadvantageous position possessing only the remaining 10 per cent.

Among the sectors which were important SSI areas, the primary product based units, including timber processing and food processing, were the most notable. Wood and food products along with paper products accounted for 43 per cent of the total units pointing to lack of diversification of the economy and the process of industrial development being a recent one.

Among large scale industries in 1974-75 out of the 512 factories<sup>9</sup> in the region Assam accounted for 91 per cent of the total. 96 per cent in terms of employment, over 97 per cent of the capital invested, over 98 per cent of both the output and the income generated (Table 5.6). Such a concentration within the region is indicative not of the development of Assam as an industrial entity but of the near total lack of industrial development in the other states of the N.E.R. In terms of the composition of industries/factories, tea was by far the most important. Both in Assam and Tripura tea processing units were the most important in all respect, i.e. in terms of employment, capital investment, output and income generation. In Assam out of the 466 units tea processing units numbered 365 and contributed to, in terms of the state total, over 60 per cent employment, nearly 33 per cent of capital investment, 55 per cent of the output and 51 per cent of the income generated. A similar situation prevailed in Tripura.

Table 5.6  
Basic Characteristics of Major Large Scale Industries (1974-75)

State	Registered Factories	Employment	Invested Capital	Output	Income Generated
	(Number)		(in lakh Rupees)		
Assam	466	98054	32732	34489	10305
Manipur	5	805	53	42	21
Meghalaya	5	948	697	198	61
Tripura	36	2085	91	224	58

Source : Basic Statistics of NER, NEC, 1980.

The importance of tea reflected the undiversified nature of the economy and the historical importance of tea in the region. It was only during the Fourth Plan when planning was made to set up industries in different parts of the region, that a systematic effort for industrial development was made in the region.<sup>10</sup>

#### 5.2.4 Occupational Structure

The occupational structure of a region or country reveals :

- (i) whether a country's economy is agricultural, industrial or semi-industrial;
- (ii) its level of economic development; and
- (iii) the direction which the planning process should follow.<sup>11</sup>

The 1971 census adopted a nine category industrial classification for working population, which is a fairly comprehensive one. However, a more simple and crude measure that

is nonetheless quite useful, is a division of the working population into primary (this includes agriculture, livestock & forestry, mining and quarrying and allied occupations), secondary (manufacturing construction, power generation etc.) and tertiary activities (trade and commerce, transport and storage and miscellaneous services etc.). This broad division allows a general perspective of an economy.

Generally a high proportion of the workforce engaged in the primary sector is related with low levels of economic development, as is true in the case of most developing countries. A proportion of 10 to 15 per cent of workforce in primary activities and a higher proportion in the secondary and tertiary sectors is associated with developed economies.

The study area, part of the developing Indian economy, had like India in 1971, nearly four fifths of its population engaged in agriculture and allied activities, much like the all India norm at 72 per cent (Table 5.7).

**Table 5.7**  
**Economic Classification of Working Population, 1971**

Category	1	2	3	4	5	6	7	NER
Workers as % of Total Population	57.65	27.95	34.56	44.16	47.03	50.75	27.78	30.75
Primary Sector	80.4	77.03	71.19	82.36	83.11	79.35	76.54	77.40
Secondary Sector	0.4	4.13	10.97	2.35	0.5	1.10	3.50	4.00

Tertiary Sector	19.2	18.81	17.84	15.29	16.40	19.55	19.96	18.60
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Note : 1 = Arunachal Pradesh, 2 = Assam, 3 = Manipur,  
 4 = Meghalaya, 5 = Mizoram, 6 = Nagaland,  
 7 = Tripura

Source : Basic Statistics of North Eastern region, 1980, NEC.

In 1971 nearly 33 per cent of the total population of India were workers. This was 180.4 million people. In the north eastern region 30.7 per cent of the total population were workers. The percentage of workers engaged in the primary, secondary and tertiary sectors in India in 1971 were 72 per cent, 9.5 per cent and 18.5 per cent respectively. For the north eastern states corresponding percentages were 77.4, 4 and 18.6.

The region behaved like the all India pattern with a large section (over 70 per cent) engaged in the primary sector, a negligible development of the industrial or secondary sector and roughly a fifth engaged in the tertiary sector. While in developed countries the tertiary sector grows as an expansion from the industrial or secondary sector, in the case of developing countries "the growth of tertiary sector has out-matched the growth of secondary sector.... (which) is not entirely the consequence of the growth of secondary sector. The tertiary sector has grown much more than the secondary sector which, of course, is not conducive to self generating economic development.... (this) becomes a heavy burden on the state exchequer."<sup>12</sup> Such a characteristic of economy is specific to its under developed structure. Amin's second thesis is of relevance

here, which relates to hypertrophy of the periphery's tertiary sector, retarded growth and increasing unemployment, as noted in Chapter II.

While such a trend was evident in the Indian economy, the basic difference between the all Indian pattern and that in north east India was the growth of the secondary sector was markedly smaller at 4 per cent compared to the all India average of 9.46 per cent.

For individual states the variation was much more. Manipur fared better than the national average, due to a well developed household industries sector which employed 34,600 persons out of the 40,700 persons employed in the manufacturing sector. Assam, Tripura and Manipur were less than half the all India average in the secondary sector. However the remaining states of Arunachal Pradesh, Mizoram and Nagaland had almost negligible employment in this sector.

In the tertiary sector a general uniformity existed between the states of the region and between the region and the all India norm.

In terms of deriving a rough measure of dependency ratio, or the ratio of non-workers to workers expressed as a percentage, the all India ratio was 204 compared to 235 for the region, with variations between Arunachal Pradesh (73) and

Nagaland (97) on one extreme to Assam (258) and Tripura (260) on the other. The latter two states had fairly low proportions of working population, while the former pair had over 50 per cent in this category, which were mostly in the primary sector and also such workers had a preponderance of women. In an intermediate position in terms of dependency ratio lay the states of Mizoram (113), Meghalaya (126) and Manipur (189). In general the hill states had lower dependency ratios as compared to the plain states of Assam, Tripura and Manipur.

Possibly this was due to the hilly nature of the terrain and the trend of family labour and higher participation of women in agricultural operations vis-a-vis the plains areas. It also reflects that the hilly areas/hill states with generally small population did not, during the 70's, have problems of unemployment, while in the other states the burden of each worker was much greater. However the most important aspect, relevant in the present section was that the economy was predominantly primary, with some development of the tertiary sector (in the developing economy mould, not following the secondary sector) and a stunted industrial sector.

#### 5.2.5 Infrastructural Base

It is widely recognised that infrastructural facilities are a pre-requisite to getting set on a path of development. It is also widely accepted that one factor that has acted as a hindrance on developmental efforts in the region is the lack of

infrastructure - be it in terms of transport and communication or in terms of availability of power sources. The following section briefly reviews the infrastructural base of the region during the 1970's.

Roads are the principal means of transport in the region. However, barring Assam, the other states did not fare very well compared to the national scenario (table 5.7).

**Table 5.8**  
**Road Length in NER (as on 1.3.1979)**

State/Union Territory	Total Length	% Surfaced to Total Length	Roads per 100 Sq. Km.	% Motorable Roads to Total Length	Motorable Roads per 100 Sq.Km.
Arunachal Pradesh	11553	20.74	13.82	43.20	5.97
Assam	56983	14.73	72.19	64.09	46.52
Manipur	8842	17.19	39.47	72.30	28.54
Meghalaya	3690	39.97	16.40	98.56	16.16
Mizoram	2916	37.24	13.82	100.00	13.89
Nagaland	5785	24.06	35.06	96.30	33.76
Tripura	7836	15.57	74.63	68.87	51.40
Total NER	97605	17.91	38.28	67.03	25.66
All India	1604110	38.86	48.90	83.81	40.98

Source : Basic Statistics of North Eastern region, 1980, NEC.

It is evident that as far as roads are concerned the region was poorly placed compared to the country as a whole. There is no doubt that the hilly terrain of the region has acted as an impediment, yet in a scenario where neither railways or airways but roads are the most important means of transport and communication, the difficulties of terrain can hardly be an

explanation for the poor connectivities that exist vis-a-vis the all India road lengths.

Although the region accounted for 7.76 per cent of the country's area its share of the total road length was only 6.08 per cent. In terms of its share of the country's motorable road-length, the NER had only 4.86 per cent. Further, in case of surfaced roads, the NER possessed only 2.8 per cent of the country's total.

The only respect in which the region fared better than the country's average was in terms of kilometers of roads per thousand population. However this is an exaggerated estimate since the all India population densities are much higher than the states of the NER, which is the only reason why Arunachal Pradesh and Nagaland (the smaller population size states) had such high indicators - several times higher than the country's average.

Among the seven states only the position of Assam was favourable. It possessed 3.5 per cent of the country's total roadlength compared to the 2.4 per cent area it possessed. In terms of roads per thousand kilometers as well, it was substantially higher than the national average as was Tripura. Yet in terms of motorable and surfaced roads, Assam, like the NER, was below the national norm. Barring Assam, to an extent Tripura and Manipur were fairly well placed, however as a whole the region's infrastructure of road networks was quite inadequate

in 1979. The view has been held by a senior army officer that "these states suffer from woefully inadequate communications, as only limited surface communications have been built mainly to meet the Army's logistic requirements."<sup>13</sup> In fact, "except for roads built for defence requirements after the Sino Indian War of 1962, the internal network of roads, and civil aviation facilities in the North East or civil air links are marginal and generally short of the requirement of the people."<sup>14</sup>

As regards the railway network, the region was equally or perhaps more handicapped than the case of inadequacies in the road network. Although the three states, Assam, Tripura and Nagaland that had rail links in 1979, had between them 2,215 kms. of rail lines or under 3.7 per cent of the country's total rail length, it was Assam which had the major share of the region's rail network. Tripura and Nagaland had 12.3 and 9.3 kms. of rail lines respectively, with the remaining 2193.8 kms. spread over Assam. Similarly the only broad gauge lines of 10.5 km. length were located in Assam. Clearly the colonial heritage of railways in Assam shaped by British mercantile interests had continued till the early 1970's.

In terms of rail length per 100 square kilometers as well, Assam was quite favourably endowed with 2.8 kms./100 km<sup>2</sup> vis-a-vis the national average of 1.83 kms./100 km<sup>2</sup> norm.

The large gap that existed between the NE region and the rest of the country continued as far as per capita electricity consumption was concerned. While the NER as a whole consumed between 23 to 27 kilowatt hours between 1975-76 to 1977-78, the all India consumption figures ranged between 100 to 131 kilowatt hours.<sup>15</sup> Again intra-regional variations were substantial.

As far as power capacity was concerned, the region which ever then had massive hydro power potentials - large enough to serve parts of the eastern region in addition to its own requirements to the tune of some 30,000 MW had a total hydro, diesel and thermal capacity of 351 MW in 1980.<sup>16</sup> The oft cited reasons for non-development of the rich hydro power resources as lack of demand from within the region is not entirely true/tenable considering the possibility of sale to neighbouring states. Finally in the financial infrastructural aspect as well the region was well below the national average (Table 5.8).

**Table 5.9**  
**Credit Deposit Ratios of Scheduled Commercial Banks, June 1978**

State/Union Territory	C.D. Ratio
Arunachal Pradesh	6.8
Assam	43.4
Manipur	36.6
Meghalaya	16.0
Mizoram	7.4
Nagaland	27.9
Tripura	41.1
North Eastern Region	38.0
All India	69.9

Source : Basic Statistics of North Eastern Region, NEC, 1980.

In the ultimate analysis, there can be little doubt that the north eastern region during the 1970's was a backward agriculture dominated industrially stunted region with a poor infrastructural base. The lack of avenues for development in even the agricultural sector, the mainstay of the regional economy, was only one among the many stumbling blocks that confronted the region.

#### 5.3.1 Structure of the Economy : 1990

The Indian economy made substantial progress between the 70's and the 90's, although it continued to remain a 'developing economy'. It had benefited in no small measure since the inception of the planning process. Nonetheless regional inequalities continued to plague the Indian economy. The north eastern region, as seen in the earlier section, was one such lagging behind region during the 1970's. Nearly two decades later and after more than four decades of the planning process, it was expected that problems like regional inequalities, having been addressed to for some time now, would be en route to being tackled and that some headway would have been achieved. Certainly the economic base, the level of industrial activity and the infrastructural base of the region would have progressed, but whether such gains were achieved in absolute terms or not, and as to whether such gains, were only superficial or more penetrating, so as to cause a shift in the economy or in any of its sectors, is the focus of the present section.

As in the preceding section, state level secondary data has been used in the analysis.

### 5.3.2 Agriculture

Even in 1991 the region economy showed a strong tendency towards the agricultural sector. 64 per cent of the regional workforce was engaged in the agricultural sector as cultivators or as agricultural labourers. Notwithstanding a decline in the relative position of agriculture since the 1970's, agriculture remained an important sector of the economy.

This section considers the position of agriculture vis-a-vis area under HYV crops, fertiliser consumption, area under irrigation and yield of rice the staple crop of the region.

The area under HYV crops in the region was still not significant in terms of the all India statistics (Table 5.9).

**Table 5.10**  
**Area Under HYV Crops in NER**  
(Thousand Hectares)

State	1986-87	1988-89	1990-91	1992-93
Arunachal Pradesh	8.7	15	45	46
Assam	1158	1176	1088	1408
Manipur	96	97	90	82
Meghalaya	45	51	51	59
Mizoram	7	13	10.4	29
Nagaland	23	35	39	44
Tripura	155	194	213	185
N.E.R.	1492.7	1578	1536.4	1853
All India	45403	48127	51282	53464
NER as % to All India	3.28	3.28	2.99	3.46

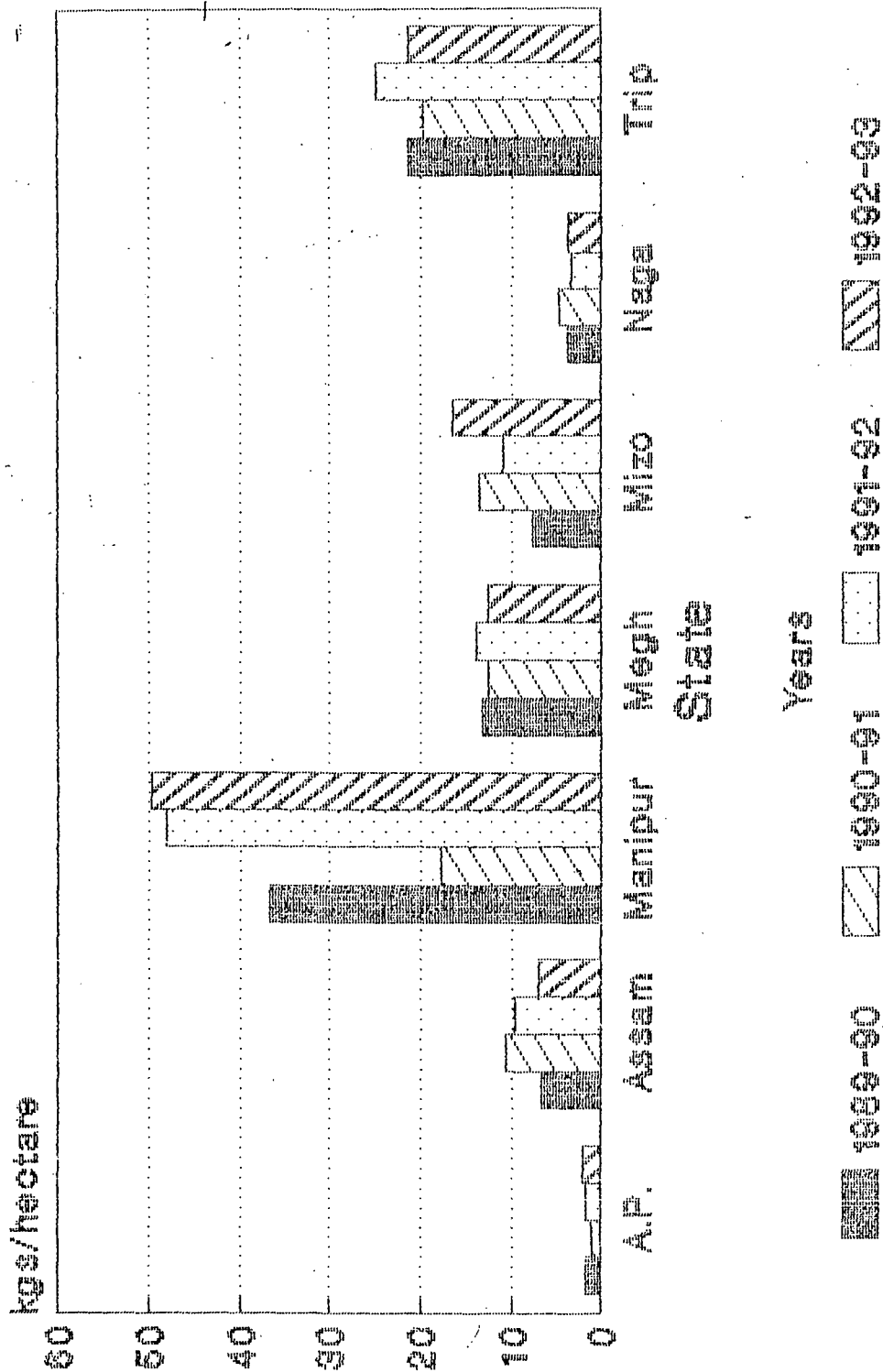
Source : Basic Statistics of North Eastern Region, NEC, 1995.

The area under HYV crops in the NER during the late 80's and early 90's was only 3 to 3.28 per cent of the all India area under such crops. Here again Assam accounted for the bulk of the HYV crop area. The remaining states had only between 23 to 30 per cent of the region's HYV area between them.

However in terms of HYV cropped area to net sown area the region fared better than the national average. In 1990-91 while 36 per cent of the country's net sown area was under HYV crops, the same proportion was 41 per cent for the north eastern region and, barring Assam, it was as high as 44 per cent. This is one result of small areas under agriculture in most areas of the region, barring Assam. Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland and Tripura had only 149, 202, 65, 190 and 270 thousand hectares of net sown area respectively. Apart from Assam and Tripura which had 34 and 25 per cent of total area under cultivation respectively, Arunachal Pradesh (1.7 %), Manipur (6.2 %), Meghalaya (9 %), Mizoram (3 %) and Nagaland (11.5 %) had small proportions of area cultivated. The constraints of the physical environment on agriculture in the region are apparent.

Yet positive improvements - though not substantial - since the 70's are unmistakable; in terms of increase in area under HYV and net sown area, inspite of performance in terms of the all India share of area under HYV crops continuing to be insignificant.

# FERTILIZER CONSUMPTION 1989-90 TO 1992-93 per hectare of cropped area



Source: Statistics, 1992 & 1995

In terms of fertiliser consumption most state of the region fared poorly vis-a-vis the all India average. Manipur was substantially superior to the remaining states in the respect and had a fertiliser consumption varying between 54 per cent of the national average (1989-90) to being on par with the all India average (1990-91).

**Table 5.11**  
**Fertiliser Consumption per hectare of Cropped Area**  
**1989-90 to 1992-93**

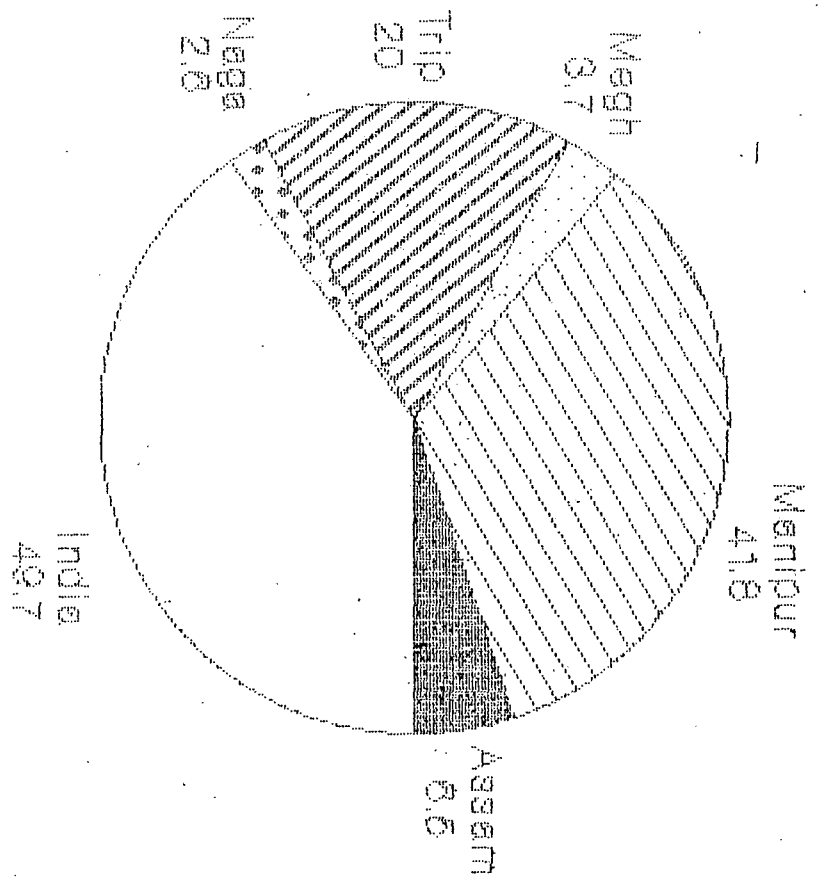
State	(Kgs./Hectare)			
	1989-90	1990-91	1991-92	1992-93
Arunachal Pradesh	1.7	1.2	1.9	2.0
Assam	6.5	10.5	9.5	6.9
Manipur	36.7	71.9	48.0	49.8
Meghalaya	13.3	12.5	13.8	12.4
Mizoram	7.5	13.5	11.0	16.4
Nagaland	3.7	4.6	3.5	3.7
Tripura	21.3	19.8	25.0	21.3
All India	66.9	72.4	70.3	67.1

Source : Basic Statistics 1992, 1995, NEC.

Among individual state the positions of Arunachal Pradesh and Nagaland are particularly poor. The former had a fertiliser consumption rate one fortieth (1989-90) or one sixteenth (1990-91) that of the national average. Nagaland fared only slightly better.

The quantum of increase in fertiliser consumption is also important. Given the unavailability of data for Arunachal Pradesh and Mizoram, the changes in consumption in the remaining five states are compared. All India consumption figures<sup>17</sup>

PERCENTAGE VARIATION IN FERTILIZER USE  
1974-5 to 1977-8 and 1989-90 to 1992-3



Diag. 3

increased from 19.45 kg/hectare to 69.17 kgs/hectare; comparatively only Manipur and to a lesser extent Tripura improved, while the other three states improved only marginally (Table 5.11).

**Table 5.12**  
**Comparative Increases in Fertiliser Consumption**  
**(Quadrennium 1974-75 to 1977-78 and 1989-90 to 1992-93)**  
**(Kgs/Hectare)**

State	1974-75 to 1977-78	1989-90 to 1992-93	Variation (Kgs/hectare)
Assam	1.8	8.3	6.5
Manipur	9.8	51.6	41.8
Meghalaya	9.3	13.0	3.7
Nagaland	1.2	3.8	2.6
Tripura	1.8	21.8	20.0
All India	19.4	69.1	49.7

Source : Calculated from Table 5.2 and Table 5.10.

At least as far as fertiliser consumption is concerned the period 1975-75 to 1992-93 showed a trend of increasing differences/disparities between the north eastern states and the rest of the country.

A related aspect is the number of fertiliser sales outlets. The region fared poorly in this respect possessing only 6345 outlets compared to 2,31,170 all India in 1990 and 6550 outlets vis-a-vis 2,32,505 for the entire country in 1991 (Fertiliser Statistics 1992-93 quoted from NEC Basic Statistics, 1995, p. 96) out of which Assam alone had over 5000 outlets.

In terms of area under irrigation some gains over acreage have been recorded over the last two decades but no significant differences have accrued.

While in 1976-77, 779 thousand hectares were under all sources of irrigation, gains to the tune of 56 thousand hectares were made upto 1990-91. During the same period the all India area under irrigation increased by 26,967 thousand hectares.

While in the former period the region accounted for 2.24 percent and 2.67 percent of the country's gross irrigated and gross cropped area (Table 5.3), in 1990-91 corresponding ratios were 1.35 per cent and 2.8 per cent respectively (Table 5.12). As a whole increases in irrigated area were recorded, although in proportion to all India estimates the share of the region decreased pointing to the slower rates of growth (in irrigated area) between the region and the rest of the country.

Table 5.13  
Area Under Irrigation, 1990-91

State	(000 hectares)		
	Gross Irrigated Area	Gross Cropped Area	Irrigated Area as % Cropped Area
Arunachal Pradesh	32	247	12.95
Assam	572	3797	15.06
Manipur	75	180	41.66
Meghalaya	47	243	19.34
Mizoram	8	74	10.81
Nagaland	60	210	28.57
Tripura	41	445	9.21
N.E.R.	835	5196	16.07
All India	61766	185477	33.30
NER as % All India	1.35	2.80	-

Source : Basic Statistics of North Eastern Region, 1995, NEC.

Similarly considering the ratio of irrigated to cropped area while the all India rates improved perceptibly from 20.8 per cent in 1976-77 to 33.33 per cent in 1990-91, corresponding ratios for the region showed a decline from 17.4 per cent to 16 per cent for the same years.

As far as individual states are considered, barring Assam and Mizoram, for which the irrigated area remained static between the fourteen years/decade and half at 572 and 8 thousand hectares respectively, the remaining states made improvements as noted earlier, to a combined effort of 56 thousand hectares.

The other indicator used for analysing the position of agriculture in the region is the yield of rice. As a whole the region's productivity was on an average 419 Kgs. per hectare lower than the national average during the years 1990-91 to 1993-94, compared to an average annual differential of 179.5 kilograms per hectare lower productivity during 1972-73 to 1982-83. A clear tendency towards accentuation of disparities at the regional and the all India level is evident. The gains in improvements were more rapid all India than in the region.

Again individual states like Manipur and Tripura have yields comparatively higher than the national average (Table 5.13).

Table 5.14  
Yield of Rice : 1990-91 to 1993-94

State	Kgs/hectare			
	1990-91	1991-92	1992-93	1993-94
Arunachal Pradesh	1170	1173	1014	1180
Assam	1313	1265	1308	1331
Manipur	1742	2124	1779	2154
Meghalaya	1155	1159	1094	1094
Mizoram	1244	1277	1370	1547
nagaland	1227	1194	1304	1343
Tripura	1830	1846	1813	1813
N.E.R.	1361	1341	1351	1396
All India	1751	1751	1744	1879

Source : Basic Statistics of North Eastern Region, 1995, NEC.

The overall scenario in agriculture in the region vis a vis all India does not appear favourably. Although improvements over the 70s have been recorded, the rate of improvement within the region are slower than those for the country as a whole.

### 5.3.3 Industry

The region had only limited industrial development. In 1992-93 the region had only 2103 registered factories which was less than 2 per cent of the country's total<sup>18</sup> number of factories, employed again less than 2 per cent of all India figures and the net value added was similarly less than 2 per cent while invested capital was barely 1 per cent of all India figures (Table 5.14).

**Table 5.15**  
**Industrial data of N.E.R. 1992-93**

States	Factories (in number)	Employees (number)	Net Value Added (Rs. lakh)	Invested Capital (Rs. lakh)
Assam	1708	131938	83016	230804
Manipur	73	1739	- 319	2470
Meghalaya	32	6416	3057	33267
Nagaland	68	4244	725	9932
Tripura	222	10218	2248	5249
N.E.R.	2103	154545	89046	281722
All India	119494	8704947	7124819	27772858

Source : ASI, 1992-93, CSO.

The position in the past two decades has shown no major changes.

Similarly in the small scale industries sector, the region's 9330 units in 1988 accounted for 1.6 per cent of the all India units, employed 1.87 of the same and of the country's total fixed investment and investment in plant and machinery contributed a miniscule 1.79 per cent and 1.48 per cent respectively and produced again 1.25 per cent (Table 5.15). Only in the area of capacity utilisation was the region at par with the all India average.

**Table 5.16**  
**SSI Units in NER Vis-a-Vis All India : March 1988**

	No. of Units	Employ- ment	Fixed Investment (Rs. lakhs)	Investment in Plant & Machinery	Production (Rs. lakhs)
NER	9330	68593	16628	8241	54221
All India	582368	3665810	929603	554258	4321907
NER as % All india	1.6	1.87	1.79	1.48	1.25

Source : Report on the Second All India Census of Small Scale Industrial Units, DCSSI, Government of India.

Table 5.17  
Economic Classification of Working Population, 1991

Sector/ Category	NER States *							NER	India (Excl J & K Assam)
	1	2	3	4	5	6	7		
Workers as % Total Population	46.24	36.09	42.18	42.67	48.91	42.68	31.14	33.17	37.50
Primary Sector	67.44	73.99	70.00	74.81	65.99	75.26	64.08	72.59	67.37
Secondary Sector	2.68	3.99	8.11	2.15	2.61	1.71	4.94	4.02	10.18
Tertiary Sector	22.02	21.89	23.04	31.40	23.03	30.03	30.98	23.39	22.45

\* - 1 = Arunachal Pradesh, 2 = Assam, 3 = Manipur, 4 = Meghalaya  
5 = Mizoram, 6 = Nagaland, 7 = Tripura  
Source : Census of India, 1991, Paper 2 of 1992.

Here again although the position of the region in terms of the national scene has remained one of insignificance, there has been growth over the past two decades. From 2654 units in 1971 the strength of SSI units increased to 9823 units in 1981, 13,816 units in 1985 to 20,377 units in 1988.<sup>19</sup> However the national figures jumped from 139,577 units in 1971 (Table 5.5) to 523,180 units in 1981, 854,843 in 1985 to 1158,575 in 1988.<sup>20</sup> Within the region Assam continued to dominate accounting for over 50 per cent of the total units, with Tripura (17 per cent) and Manipur (14 per cent) being important as well. Among the hill

states, Mizoram was the most important and Arunachal Pradesh the least.

In general the importance of industries in the region has been marginal in the all India context exhibiting no shift in the past two decades.

#### 5.3.4 Occupational Structure

Like the all India pattern the region had the bulk of the working population in the primary sector a small secondary and a larger tertiary sector. However, the NE region had a significant difference, as it existed in 1971, in that the share of the working population in the secondary sector was only 4 per cent as against the national 10 per cent (Table 5.16).

Among individual states, Manipur stands out with 8.1 per cent working population in the secondary sector as against the all India 10.1 per cent. This again is a trend continuing since 1971.

#### 5.3.5 Per Capita Income

A study on rural poverty by the World Bank's Development Research Centre from 1957 to 1974 showed the north eastern region record a significant increasing trend in the poverty level.<sup>21</sup> Using per capita income as a measure of poverty, Choudhury, has shown that "the distance of per capita income of most of the north eastern states from the all India level of per

capita income has gradually widened"<sup>22</sup>, during the years 1980-81 and 1989-90.

During the years 1973-74 to 1975-76, Assam ranked 19th among 22 states, falling in the Group D states while the remaining north eastern states for which data was available - Manipur, Meghalaya, Nagaland and Tripura - came under the last group, Group F.<sup>23</sup> These states had P.C.I varying between Rs. 830 to Rs. 870 compared to the first ranked state - Punjab's Rs. 1586, while Assam had a poor Rs. 791 above only the states of Madhya Pradesh, U.P and Bihar.

Present trends of per capita income show the states of the region faring marginally poorly against the national average. Only Arunachal Pradesh has remained consistently above the all India average right from 1980-81 till 1992-93 (Table 5.17).

Assam showed a differential of Rs. 425 in 1980-81 (from the national average) rising to Rs. 583 in 1988-89 and decreasing marginally to Rs. 453 in 1990-91. Similarly Nagaland, Manipur and Tripura recorded increasing differentials against all India averages during the years 1980-81 to 1992-93. In Meghalaya's case a difference of Rs. 264 in 1980-81 rose to a maximum of Rs. 654 in 1989-90 and thereafter declined - though only slowly - to Rs. 494 in 1990-91 and Rs. 319 in 1992-93.

**Table 5.18**  
**Per Capita Income at 1980-81 Prices**

(Rupees)

States	Year					
	1980-81	1985-86	1988-89	1989-90	1990-91	1992-93
Arunachal Pradesh	1561	2074	2360	2441	2452	2493
Assam	1200	1483	1516	1772	1805	1887
Manipur	1429	1623	1723	1761	1850	2002
Meghalaya	1361	1412	1471	1610	1764	1906
Nagaland	1448	1654	1975	1980	1894	1888
Tripura	1323	1335	1565	1628	1664	-
All India	1625	1857	2099	2201	2258	2225

Source : Basic Statistics of North Eastern Region, 1995.

On the other hand Arunachal's position higher than the national average by Rs. 64 in 1980-81, improved to Rs. 268 in 1992-93.

### 5.3.6 Infrastructural base

The Centre for Monitoring Indian Economy (CMIE), Bombay using 16 indicators<sup>24</sup> with different weightages to derive an index of Development infrastructure in the north eastern region, showed the following results<sup>25</sup> :

**Table 5.19**  
**Index of Development Infrastructure**  
(All India = 100)

State	Index for		
	1976-77	1989-90	1992-93
Assam	89	95	93
Meghalaya	63	71	65
Manipur	63	78	81
Nagaland	81	67	71
Mizoram	40	57	63
Arunachal Pradesh	NA	31	44
Tripura	48	68	63

During the period 1976-77 to 1992-93 states of the region, made varying degrees of progress, yet all of them remained well behind the all India average. As noted by one scholar<sup>26</sup> the performance in comparison to the prosperous states like Punjab which recorded an index number of 214, and nine other states which remained below 100, the states of the region have much to achieve.

In specific instances like roads, railways and financial infrastructure, the following analysis compares these infrastructure with the 70s position.

Roadlength increased from 97.6 thousand Kms. to 116.5 thousand Kms. in 1992 (Table 5.19). However, the position in relation to the national average continued to be poor. While surfaced roads accounted for a little over half the nation's total length of roads. They were only 27 per cent in the region with a low of 16 per cent in Assam. Only one state, Nagaland was well placed in terms of surfaced roads.

Table 5.20  
Road Length in N.E.R. (As on 31.3.1992)

(Kms.)

State	Total Length	Surfaced Roads	% Surfaced	Road per 100 Sq.Km	Roads per '000 Popn
Arunachal Pradesh	7520	2496	33.19	8.9	8.74
Assam	68913	10841	15.73	87.8 /	3.09
Manipur	6765	2741	40.52	30.3	3.70
Meghalaya	7832	2931	37.42	34.9	4.45
Mizoram	3708	1268	34.19	17.6	5.37
Nagaland	8805	6842	77.70	53.1 /	7.21
Tripura	13008	4448	34.19	124.1 /	4.74
NER	116551	31567	27.08	45.69	3.73
All India	2065209	1043365	50.52	62.80	2.44

Source : Basic Statistics of North Eastern Region, 1995, NEC.

Similarly the regional average was lower than the national in terms of road length per unit area and population, although individual states like Tripura and Assam were well placed in terms of roads per unit area. The position of the region in general was not very encouraging.

Although a Government Report<sup>27</sup> points out that the region had 12.98 per cent of the total National Highways of India and accounted for only 7.76 per cent of the country's geographical area; and that in terms of population as well, the region (including Sikkim's share of 4411 Km. or 13 per cent of regional total of 33666 Km. of National Highways) with 13.1 per cent of the total National Highways had only 3.7 per cent of India's population, and was favourably placed, this does not show the true picture.

It is felt that the Report does not provide an objective analysis of the road network infrastructure of the region, since it makes no mention of the fact that the region with 7.7 per cent of the country's area only had 5.64 per cent of its roads and only 3 per cent of surfaced roads. The favourable position in terms of National Highways per thousand population, also being a non sequitur, since the region had only 3.3 per cent of the all India population.

Railways in the region continued to fare poorly, although Assam with 2.36 per cent of India's area and 3.94 per cent of its rail length, was well placed. However, broad gauge length till 1992-93 was only 266 Kms. compared to 36504 Kms. all India, and barring Assam, no other state had any broad gauge lines. Assam ranked highly in the all India rankings, finishing fourth in terms of route length per unit area and third per unit population.<sup>28</sup>

The gap that existed between the regional per capita electricity consumption and the national average that existed in the 70s continued into the 90s. During 1992-93 while all India consumption figures were 330 KWH the regional consumption ranged from 84 KWH (Tripura) to 159 (Meghalaya)<sup>29</sup>. Installed power capacity (as on 30.11.1994) in the region was a meagre 1154.4 megawatt or 1.47 per cent of the national total of 78177 megawatt<sup>30</sup>, inspite of huge potentials existing, particularly in

the hydro power sector.<sup>31</sup> The region had, on the contrary, a power shortage during peak demand, of 85 MW.<sup>32</sup>

A similar scenario in terms of financial infrastructure existed. As far as the number of officers of commercial banks were concerned also, the region appeared deficient at present, as it did on 1969 (Table 5.20).

Table 5.21  
Number of Commercial Bank Offices

State	July 1969	July 1994
Arunachal Pradesh	0	68
Assam	74	1223
Manipur	2	85
Meghalaya	7	179
Mizoram	0	76
Nagaland	3	71
Tripura	5	181
N.E.R.	91	1883
All India	8321	61742

Source : RBI, Bulletin, May 1995.

In 1969 the region possessed only 91 branch offices out of the all India 8321, totalling a mere 1 per cent of branches. This proportion improved to 3 per cent in 1994 though out of a total of 61,742 the regional total of 1883 offices was still insignificant.

In terms of average population served per commercial bank (as on end June 1994) compared with the all India average of 14,000 population two states Mizoram (9,000 persons per bank)

ranked 4th and Meghalaya (10,000 persons/bank) ranked 10th figured among the top ten states. Goa (4,000 persons), Himachal Pradesh (7,000 persons) and Delhi (8,000 persons) were the top states and the NER was fairly well placed, with Arunachal Pradesh (13,000), Tripura (15,000), Nagaland (17,000), Assam (18,000) and Manipur (22,000) fairing progressively poorly and finishing 12th, 20th, 23rd, 24th and 26th respectively.<sup>33</sup>

The credit deposit ratio for the region stood as 41.98 per cent in 1993 and 37.71 per cent in 1994 as against 61.41 per cent and 57.5 per cent for the corresponding years, for the country as a whole,<sup>34</sup> with only Manipur having the C.D. ratio above the national aggregate.

Among financial infrastructure on the anvil, projects like the Rs. 500 crore North Eastern Development Bank (NEDB) to finance creation, expansion and modernisation of infrastructure projects in the region<sup>35</sup> are important.

#### 5.4. A Comparison of the Economy : 70's to 90's

The regional economy did not show any significant signs or trends of change in the last two decades. From the foregoing discussion it can be summarised that the primary sector continues to dominate the industrially stunted economy with a marginal share of the national total in terms of large, medium and small scale industries. As far as development of infrastructure is concerned the region lags behind the rest of

the country, during the 70's as well as in the early 90's. However in certain sectors, railways for instance, individual states like Assam or Manipur in case of the C.D. ratio remained on par or even above national norms. Yet as a single entity the north eastern region remained as it was during the 70's : a sluggish, un-diversified primary sector dominating economy with low infrastructural facilities.

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24. These include:

Item	Weightage
1. Per capita consumption of electricity	10
2. Per capita industrial consumption of electricity	5
3. Percentage of villages electrified to total villages	5
4. Percentage of area irrigated to total cropped area	20
5. Road length per 100 Sq. Km. area	5
6. No. of motor vehicles per lakh of population	5
7. Length of National Highways per 100 Sq. Km. area	5
8. Railway route length per 1000 Sq. Km. area	20
9. Post offices per one lakh population	2.5
10. No. of letter boxes per lakh population	2.5
11. Literacy percentage	4
12. Schooling Facilities (enrolment)	6
13. No. of hospital beds per lakh population	4
14. Per capita Bank deposits	2
15. Per capita Bank credit	2
16. No. of Bank offices per lakh population	2
Total	100.0

25. CMIE : Basic Statistics relating to the states of India, 1992 and 1994.

26. Ibid., p. 80

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## CHAPTER VI

### LEVELS OF REGIONAL DIFFERENTIATION

#### 6.1. Introduction

Countries and regions in traditional societies like India experience the concentration of developmental activities at a few centres, which tend to act as magnets drawing the more dynamic elements from the more static regions, placing the rest of the country in a second class peripheral quasi colonial relationship to such centres.<sup>1</sup> The NER is an example of such a periphery that has within it such centres and quasi colonial structures, given the preferential spatial spread of colonial activity. Identifying such areas as they exist today is important depending on the perspective taken. If the view is to attain growth, then current and future investment will have to be in developed enclaves. If the intention is to attain growth with regional and social equality then the depressed areas will have to be raised in the ladder of growth. In the present chapter the attempt is to identify spatial disparities within the NER.

#### 6.2 Resource Levels

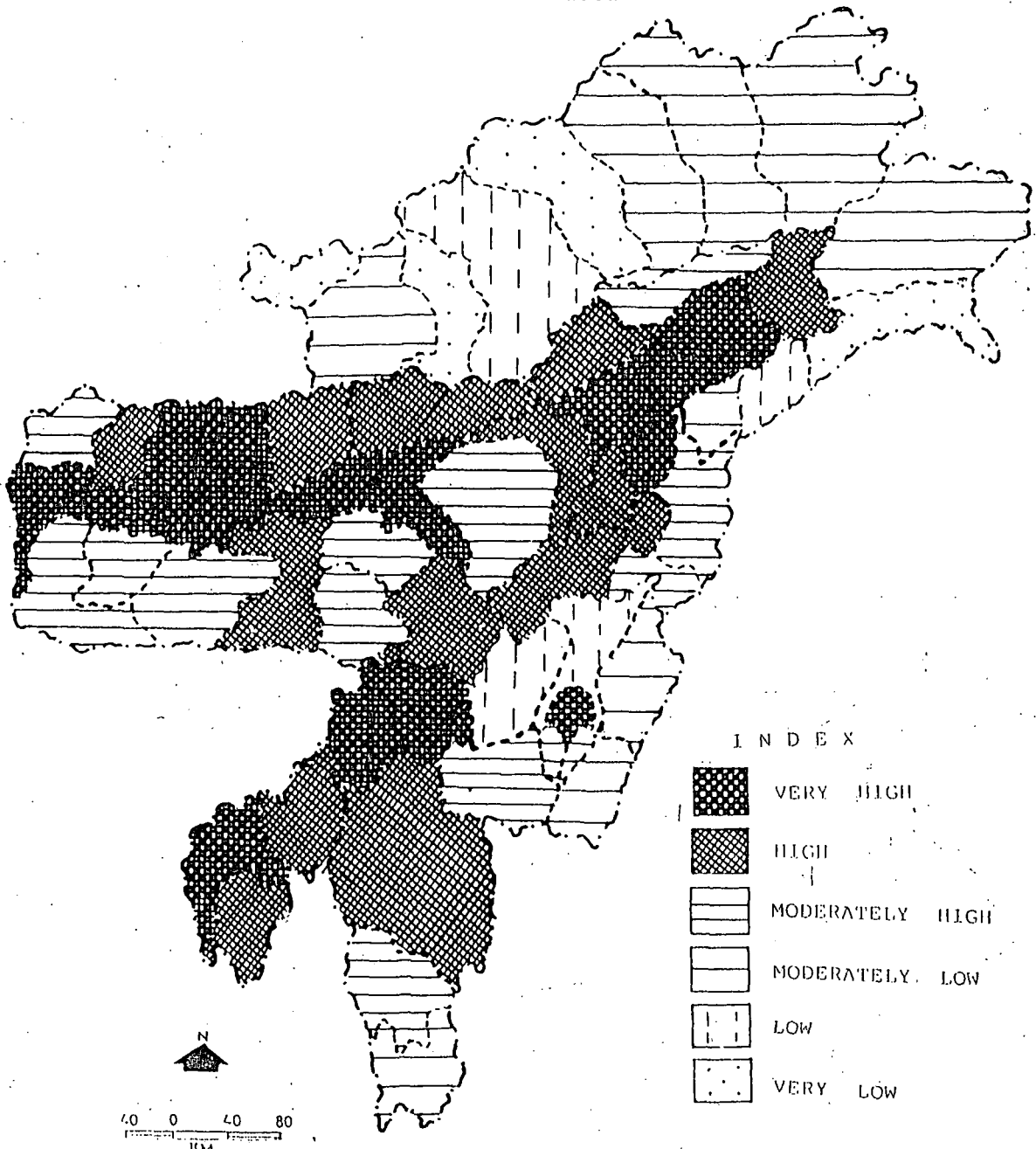
For the resource base sector the following principal component scores, ranked in descending order were derived :

Table 6.1  
Principal Component Scores for the Resource Base Sector .

District	Score	Rank	District	Score	Rank	District	Score
Karimganj	3.29	1	Zunheboto	1.21	21	Churachandpur	-0.69
Jorhat	3.28	2	Golaghat	1.20	22	W.G. Hills	-0.71
Hailakandi	2.76	3	Darrang	1.18	23	Jaintia Hills	-1.21
Sibsagar	2.71	4	Tinsukia	1.13	24	Chhimituipui	-1.33
Imphal	2.55	5	Sonitpur	1.03	25	Mon	-1.69
Barpeta	2.53	6	E.K. Hills	1.01	26	West Siang	-1.92
Mokokchung	2.47	7	Kohima	0.98	27	West Kammeng	-2.12
West Tripura	2.46	8	N.C. Hills	0.98	28	East Siang	-2.14
Nalbari	2.42	9	Aizawl	0.96	29	Dibang Valley	-2.48
Cachar	2.40	10	South Tripura	0.75	30	Lohit	-2.53
Nagaon	2.26	11	Dhemaji	0.31	31	Chandel	-2.62
Kamrup	2.21	12	Phek	0.22	32	Ukhrul	-2.65
Dibrugarh	2.02	13	Bishnupur	0.12	33	L. Subansiri	-2.82
Marigaon	1.99	14	Karbi Anglong	0.11	34	Tirap	-3.17
Goalpara	1.91	15	Kokrajhar	0.09	35	Tamenglang	-3.30
Dhubri	1.82	16	Thoubal	-0.14	36	Senapati	-3.98
Wokha	1.75	17	W.K. Hills	-0.16	37	U. Subansiri	-4.31
Bongaigaon	1.58	18	Tuensang	-0.23	38	Changlang	-4.52
North Tripura	1.36	19	Lunglei	-0.54	49	E. Kammeng	-4.65
Lakhimpur	1.25	20	E. G. Hills	-0.59	40	Tawang	-5.82

From the map (Fig. 6.1) it is evident that at a broad level a distinction between the hills and plains can be made. The former show generally lower levels of resource base compared with the plains areas of Assam, the Imphal district of Manipur which is a level plain land and the districts of Tripura. The only exception to this hills-plains dichotomy are the western districts of Nagaland, namely, Mokokchung, Wokha, Kohima and Zunheboto, the Aizawl district of Mizoram, and the North Cachar Hills district of Assam which exhibit higher resource base than the majority of hill districts.

NORTH EAST INDIA  
LEVELS OF RESOURCE BASE  
1991



map 2

Assam and Tripura in which most of the very high and high levels of districts are found represent one end of the scale, with all the 11 districts of Arunachal Pradesh bringing up the rear. Arunachal's case of resource base is interesting since the whole has the highest percentage area under forest cover and inspite of this all its districts are at the bottom of the scale and this means that in terms of the other indicators : viz. rural and urban literacy, workers as proportion to total population and the reciprocals of population growth, the state is quite poor. However it needs to be noted that our index, due to lack of availability of comparable district-wise data, gives more emphasis on human resources, and only 1 of the 5 variables relates to a physical resource, i.e., forest cover. While Arunachal fares poorly, all of the 23 districts of Assam barring the Karbi Anglong and Kokrajhar districts fared well in the first and second levels. The contrasting hills-plains disparity can also be explained by the distance factor. Districts located close to the centrally located Brahmaputra valley exhibit higher resource levels, while those farther away - southern Mizo districts, eastern districts of Nagaland and those of Arunachal Pradesh - exhibit lower levels of resource base.

Secondly, at the state level, the position of districts in which state capitals are located, is always relatively better off. Thus, in Manipur, Imphal has the highest score (Table 6.1) in Tripura, West Tripura has the highest score, as also Aizawl in Mizoram and East Khasi Hills In Meghalaya. This again reflects

the human resource bias in our index and state capital possessing districts are better off since such area often have the maximum literacy, employment levels etc. amongst a backdrop of limited development.

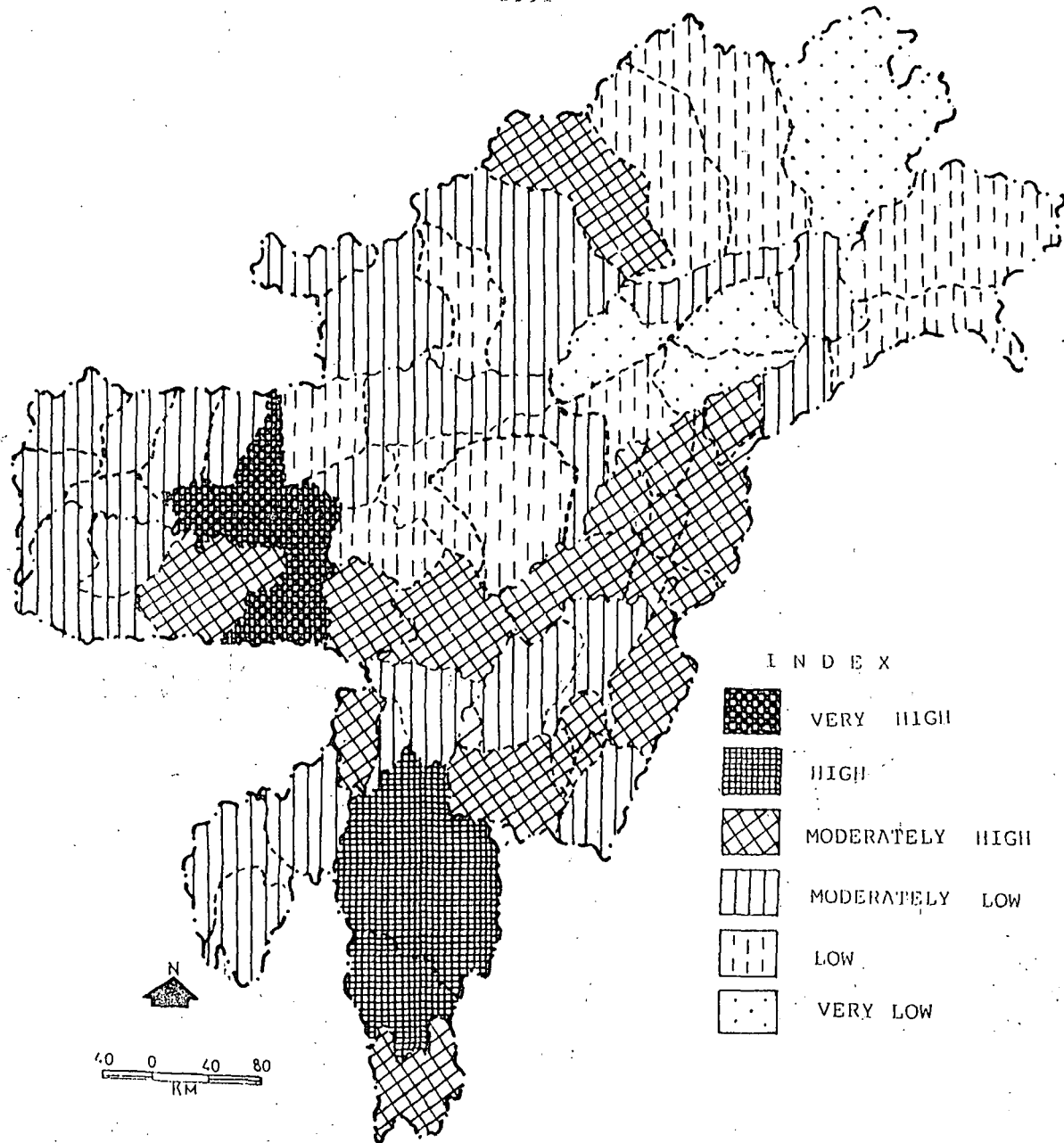
### 6.3 Agricultural Levels

The agricultural levels derived from 6 indicators, out of which the reciprocals of workers in agriculture was taken along with the remaining indicators (chapter 3) gave scores (Table 6.2) that are cartographically represented in Fig. 6.2.

**Table 6.2**  
**Principal Component Scores for the Agricultural Sector**

District	Score	Rank	District	Score	Rank	District	Score
E.K. Hills	6.12	1	Karimganj	0.54	21	Cachar	-0.85
Kamrup	4.64	2	Churachandpur	0.52	22	Goalpara	-0.88
Aizawl	2.67	3	West Kammeng	0.48	23	L. Subansiri	-0.98
Lunglei	2.43	4	Tamenglang	0.42	24	Tawang	-1.05
Chhimtuipui	2.33	5	Senapati	0.39	25	E.G. Hills	-1.07
Kohima	2.24	6	Chandel	0.37	26	Nalbari	-1.20
Mokokchung	1.97	7	Tirap	0.28	27	Kokrajhar	-1.29
Wokha	1.95	8	Tinsukia	0.26	28	Darrang	-1.41
Phek	1.91	9	Sonitpur	0.25	29	Jorhat	-1.58
Zunheboto	1.89	10	Bongaigaon	0.21	30	Karbi Anglong	-1.71
W.K. Hills	1.81	11	Hailakandi	0.17	31	East Siang	-1.78
Tuensang	1.79	12	West Tripura	0.14	32	Nagaon	-1.85
Mon	1.75	13	W.G. Hills	0.11	33	West Siang	-2.12
Imphal	1.35	14	Marigaon	0.10	34	Lohit	-2.21
N.C. Hills	1.19	15	North Tripura	0.09	35	Changlang	-2.51
U. Subansiri	0.96	16	Dhemaji	0.05	36	East Kammeng	-3.06
Jaintia Hills	0.84	17	South Tripura	-0.01	37	Sibsagar	-3.55
Bishnupur	0.66	18	Dhubri	-0.13	38	Dibrugarh	-3.61
Ukhrul	0.57	19	Barpeta	-0.40	49	Lakhimpur	-4.85
Thoubal	0.56	20	Golaghat	-0.80	40	Dibang Valley	-5.17

NORTHEAST INDIA  
LEVELS OF AGRICULTURAL DEVELOPMENT  
1991



map 3

It is evident that apart from a handful of districts the bulk fall in the lower levels of agricultural development. In fact only 4 districts - East Khasi Hills, Kamrup, Aizawl and Lunglei - fall in the two highest categories of agricultural development. 3 of these 4 districts have state capitals located within them pointing to the importance of credit and technology diffusion in agricultural development. East Khasi Hills, Kamrup and Aizawl received Rs. 3434, Rs. 2463 and Rs. 1305 as bank credit per cropped hectare of land which was not only higher than credit rates for the region, but also well above the national average of Rs. 1046 as well.<sup>2</sup> Credit rates and facilities for agriculture are naturally correlated with administrative importance of districts - in the absence of well developed commerce in the region - and thus proximity to or presence of state capitals where banks and credit institutions are higher, acts as a catalyst to agriculture.

Two other features emerge : first, that no differences between the hills and plains are apparent. On the contrary, the hill districts of Nagaland, Manipur, Mizoram and Meghalaya and North Cachar Hills of Assam have better agricultural development vis-a-vis the plains districts of the Brahmaputra and Barak valleys and Tripura; second, that the upper Assam districts important for tea cultivation, Dibrugarh, Sibsagar, Lakhimpur and Jorhat, have low agricultural developmental levels. Even Dhemaji and Tinsukia have only moderate levels of agricultural development.

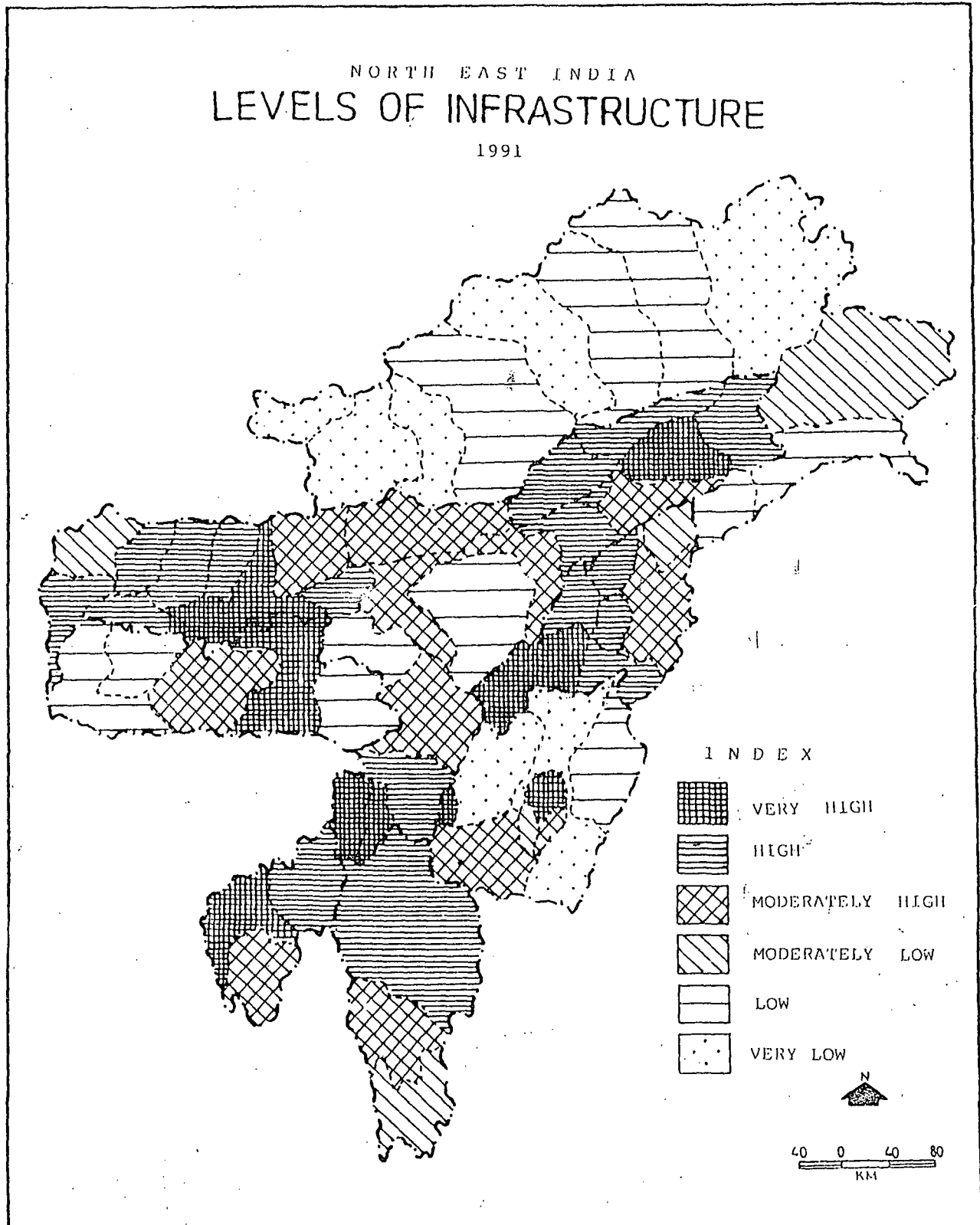
The role of physical factors seems unclear. While in Arunachal Pradesh, it seems to have had some kind of a constricting effect, in affording, on the whole quite low developmental levels, in Nagaland's case no such negative influence seems to have operated, with all the 7 districts falling in the 3rd level, with Kohima, the capital at the top. Similarly in Mizoram's case physical constraints on agriculture are not apparent. Yet the uniformity in this state is also due to data constraints, since a few agricultural indicators were available only at the state level and these had to be considered for the 3 districts.

#### 6.4 Infrastructural Levels

The scores for the infrastructural levels (Table 6.3) represented by a choropleth map (Fig. 6.3) too show a tendency of the state capital-possessing-districts having the best infrastructural levels. Of the 8 districts in the first level, 5 belong to capital districts and the remaining 3 are either important industrially (Dibrugarh) or have dense populations (Karimganj and Hailakandi). A similar trend exists in the second level and it would appear that administrative importance, industrial activity and population concentration have a bearing on the level of infrastructural facilities. Since in the index of infrastructure, length of railways per unit area has been avoided, the picture that emerges is probably more skewed in reality and the relative position of the districts of Brahmaputra

NORTH EAST INDIA  
LEVELS OF INFRASTRUCTURE

1991



and Barak valleys along with West Tripura would have been slightly better with railways also being included in the index.

Areas which exhibit lower levels are Garo and Jaintia Hills, several districts of Arunachal Pradesh, and 4 districts of Manipur.

**Table 6.3**  
**Principal Component Scores for Infrastructural Sector**

District	Score	Rank	District	Score	Rank	District	Score
E.K. Hills	3.62	1	Bongaigaon	1.62	21	Mon	-0.78
Kamrup	3.49	2	North Tripura	1.49	22	Lohit	-0.94
Kohima	3.12	3	Lakhimpur	1.37	23	W.G. Hills	-1.62
Imphal	2.98	4	Phek	1.35	24	Jaintia	-1.88
Dibrugarh	2.92	5	Zunheboto	1.19	25	Karbi Anglong	-1.91
West Tripura	2.76	6	Lunglei	1.09	26	Changlang	-1.91
Karimganj	2.61	7	Thoubal	1.06	27	Ukhrul	-1.97
Hailakandi	2.41	8	W.K. Hills	1.02	28	E.G. Hills	-2.01
Marigaon	2.31	9	Nagaon	0.94	29	East Siang	-2.08
Jorhat	2.30	10	Golaghat	0.86	30	West Siang	-2.19
Aizawl	2.28	11	Sibsagar	0.83	31	Tirap	-2.34
Tinsukia	2.12	12	Tuensang	0.72	32	L. Subansiri	-2.38
Nalbari	2.02	13	Sonitpur	0.61	33	Tamenglong	-2.66
Cachar	1.98	14	N.C. Hills	0.32	34	West Kammeng	-2.85
Goalpara	1.95	15	South Tripura	0.16	35	Chandel	-2.90
Dhubri	1.89	16	Darrang	0.09	36	Senapati	-3.04
Barpeta	1.88	17	Churachandpur	-0.11	37	U. Subansiri	-3.18
Mokokchung	1.74	18	Bishnupur	-0.17	38	Dibang Valley	-3.32
Dhemaji	1.71	19	Chhimituipui	-0.62	49	E. Kammeng	-3.54
Wokha	1.68	20	Kokrajhar	-0.69	40	Tawang	-3.84

### 6.5 Levels of Industrial Development

In general the industrial base of the region is extremely low. (Fig 6.4.) Only 2 districts, Dibrugarh and Changlang are highly developed; similarly only 2 districts Kamrup and Kohima, belong to the 2nd level of development and likewise 2

more districts, Lohit and Imphal fall in the 3rd level. The remaining 54 districts fall in the lower levels. Two areas show a concentration of the very high levels of infrastructure, one in the Brahmaputra valley where 11 districts lie and the other along the eastern margins extending in a discontinuous belt from Changlang in Arunachal Pradesh and Mon, Tuensang, Phek and Zunheboto in Nagaland upto the districts of Bishnupur, Senapati, Tamenglang, Thoubal and Ukhrul of Manipur.

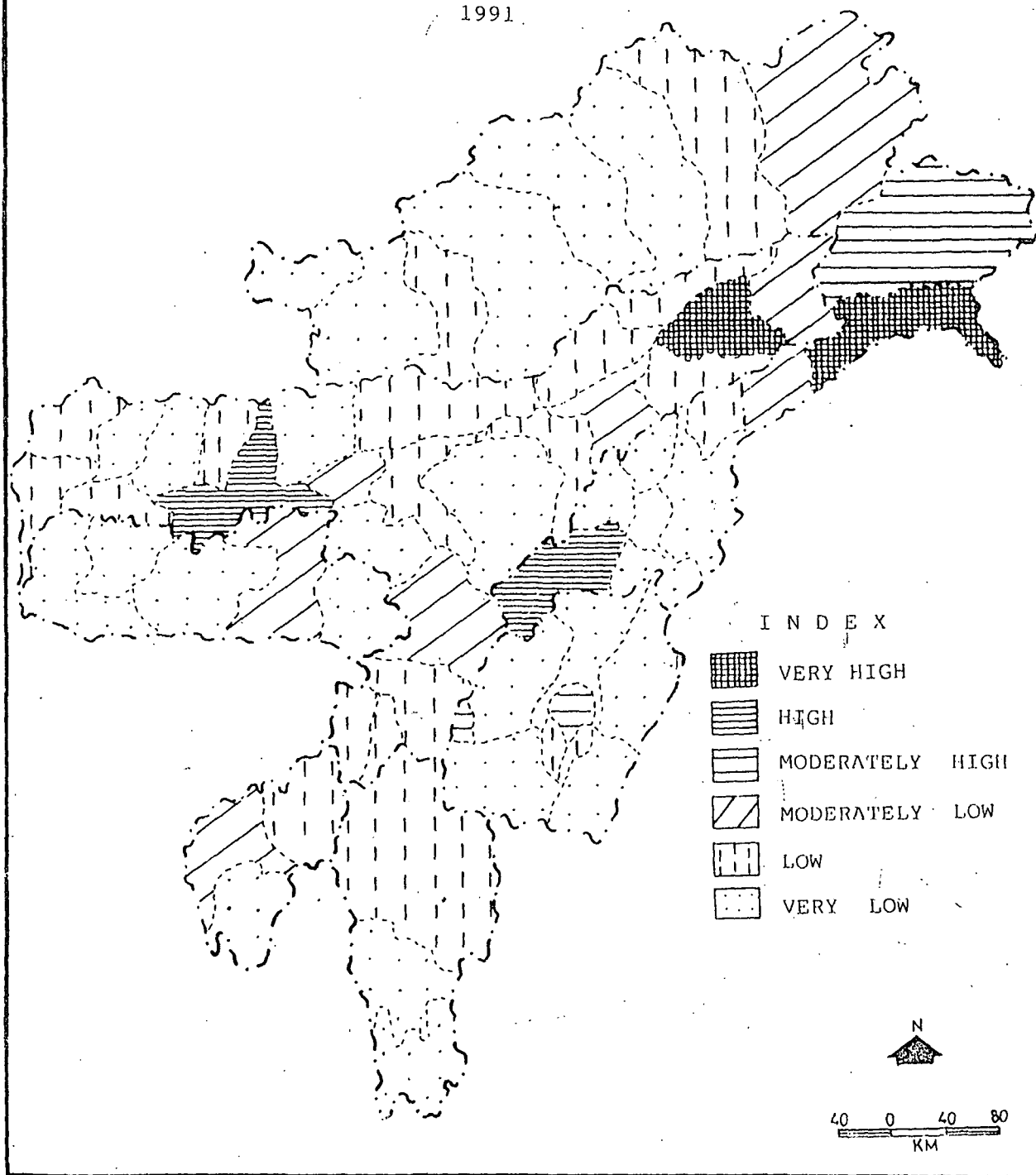
**Table 6.4**  
**Principal Component Score for Industrial Sector.**

District	Score	Rank	District	Score	Rank	District	Score	Rank
Dibrugarh	6.23	1	N. Tripura	0.07	21	West Kammeng	-0.87	41
Changlang	5.42	2	Karimganj	-0.01	22	Darrang	-0.87	
Kamrup	4.59	3	Nagaon	-0.20	23	Chandel	-1.01	
Kohima	3.91	4	Dhemaji	-0.34	24	Karbi Anglong	-1.03	
Lohit	3.28	5	Thoubal	-0.34	25	Ukhrul	-1.16	
Imphal	3.06	6	Nalbari	-0.34	26	Churachandpur	-1.26	
Dibang Valley	1.79	7	Dhubri	-0.39	27	Jaintia Hills	-1.37	
Jorhat	1.37	8	Kokrajhar	-0.42	28	U. Subansiri	-1.41	
Tirap	1.35	9	Lakhimpur	-0.43	29	Wokha	-1.45	
West Tripura	1.31	10	N.C. Hills	-0.44	30	Lunglei	-1.48	50
Marigaon	1.21	11	Aizawl	-0.47	31	Phek	-1.60	
Tinsukia	1.11	12	East Siang	-0.51	32	W.G. Hills	-1.65	
E.K. Hills	1.06	13	Sonitpur	-0.53	33	Tawang	-1.66	
Cachar	0.71	14	Golaghat	-0.60	34	W.K. Hills	-1.68	
East Kammeng	0.70	15	Mokokchung	-0.65	35	Tamenglang	-1.74	
Bishnupur	0.56	16	Barpeta	-0.69	36	Senapati	-1.75	
Mon	0.40	17	West Siang	-0.69	37	Chhimtuipui	-1.82	
Goalpara	0.35	18	Bongaigaon	-0.71	38	E.G. Hills	-1.88	
Sibsagar	0.33	19	S.Tripura	-0.81	49	Zunheboto	-2.00	
Hailakandi	0.25	20	L. Subansiri	-0.83	40	Tuensang	-2.01	60

Other highly developed districts scattered about include South Tripura, Chhimtuipui, Upper Subansiri, East Kammeng and West Garo Hills.

NORTH EAST INDIA  
LEVELS OF INDUSTRIAL DEVELOPMENT

1991



map 5

Two things are clear : first that no difference between hills and plains is apparent, although one would expect the latter to have better physical infrastructural facilities due to lower costs and better accessibility. Second, the state capitals are located in districts with low levels, except Itanagar. While the first trend is explained by the nature of our index, which has a bias toward financial infrastructure and has only one physical infrastructure, i.e. roads per 100 km<sup>2</sup>, it is less easy to explain the second trend, which should have better financial infrastructural levels in state capital areas.

A similar variegated pattern is confronted with when the lower levels are analysed. Amidst such a motley scenario where the lack of a pattern rather than anything else exists. However it can be seen that intra regional imbalances are limited, with the bulk of the districts, 53, lying in the 3 upper levels and the remaining 7 lying in the lower half of the 6 levels. This points of a uniformity within and considering that the region lags behind the rest of the country in infrastructural facilities (chapter 5) a uniformity in backwardness can be said to prevail. Dibrugarh, the most industrialised district, has had historical advantages. The erstwhile district of Dibrugarh, which included Tinsukia as well, was the centre of the tea, oil and plywood industries in the region. Even today it is an important tea district and also has several oil rich areas within its boundaries. The area is also important in coal mining activities.

As such the proportion of workers in manufacturing and household industries and per capita bank credit are high.

The position of Changlang as the 2nd ranked district is not easily evident. It neither had any historical advantages nor possesses any scarce resources, however the district like neighbouring Lohit and Tirap, has a number of saw mills that tap the rich forests of eastern Arunachal. Possibly in this light, the district received the maximum per capital bank credit to industries, at Rs 3046<sup>3</sup>, in the region, substantially higher the national mark of Rs 705.

Among the other developed districts, Kamrup, Kohima, Imphal and Lohit, the first 3 possess state capitals, reflecting the importance of institutional credit as an input to industrial development, while the 4th, Lohit has a well developed plywood industry and a number of saw mills.

In the next category representing moderately low levels of development are 7 districts. These include East Khasi Hills, where the capital Shillong is located, the industrial districts of Tinsukia, Jorhat and of lesser industrial importance, Marigaon in Assam and Tirap, Dibang valley and West Tripura. These represent an admixture of various influences : the role of finance and credit in industrial growth (East Khasi Hills and West Tripura), historical advantages (Tinsukia and Jorhat) and nearness to important districts (Marigaon and Tirap).

Barring these 13 the remaining districts show very low levels of industrial development, reflecting the generally retarded development in this sector, in the region. Little wonder that that the NER contributes less than 2 percent to the national industrial output in terms of large scale and SSI sectors, as noted in Chapter 5.

#### 6.6. Overall Levels of Development

Having considered levels of development in terms of the four sectors of the regional economy it is now necessary to ascertain development in its totality and to identify overall levels of development in the region.

**Table 6.5**  
**Levels of Overall Development**

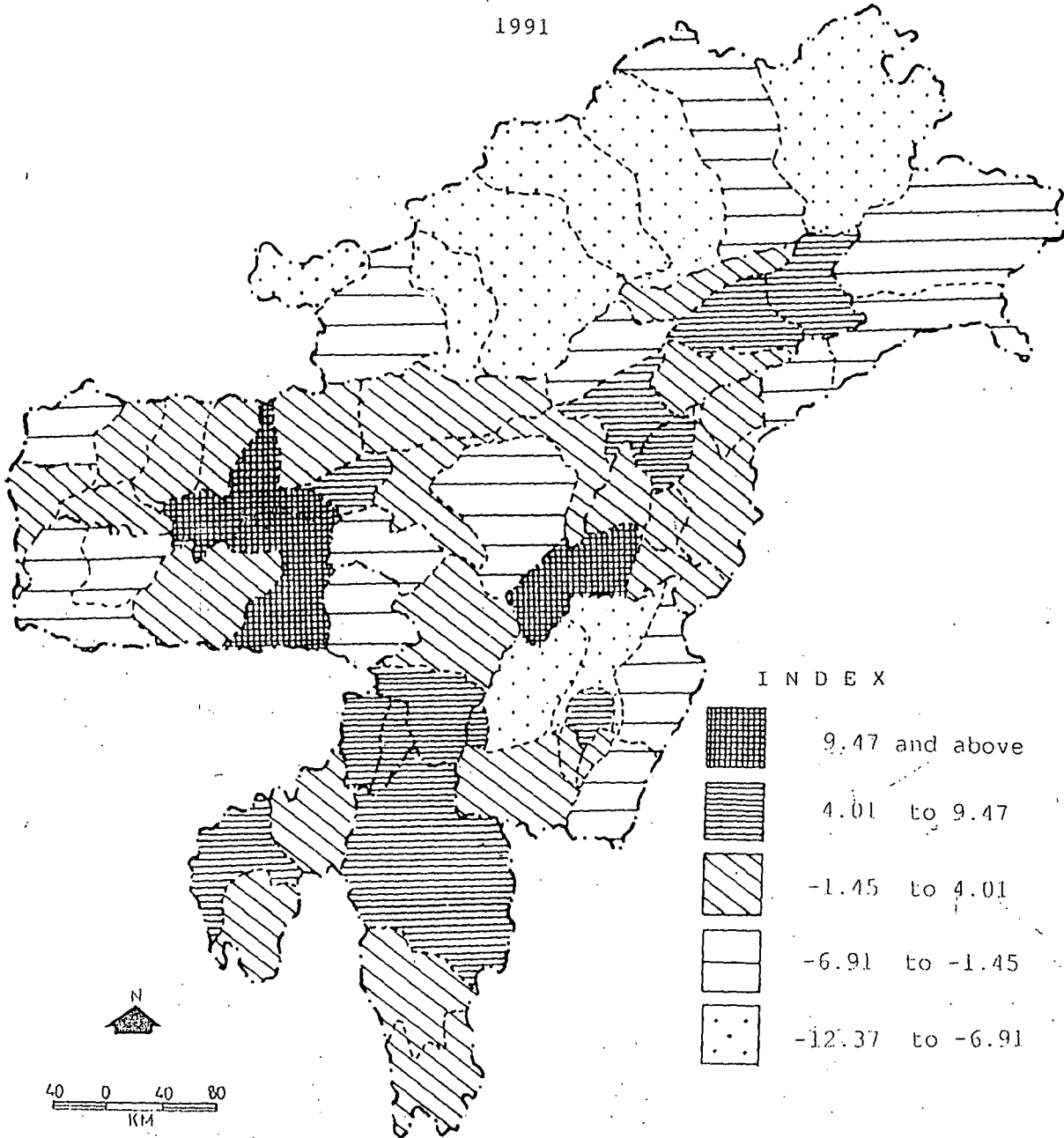
Composite Index Score	Level	Number of Districts
9.47 and above	I	3
4.01 to 9.47	II	11
-1.45 to 4.01	III	25
-6.91 to -1.45	IV	13
-12.37 to -6.91	V	8

The above Table and Fig. 6.5 shows that only 3 districts recorded a Composite Index Score above 9.47 representing the first level of development. All these are state capital possessing districts, viz., Kamrup, East Khasi Hills and Kohima. These 3 districts have considerable variation within them as well (Table 6.6) ranging from 14.93 for Kamrup to 11.81 for East Khasi Hills and 10.25 for Kohima. More than industrial or

NORTH EAST INDIA

OVERALL LEVELS OF DEVELOPMENT

1991



map 6

agricultural development, administrative significance appears to influence development. These districts, particularly the capitals Guwahati and Shillong, are gateway cities to the region, possess a number of central government offices, banks and financial institutions and regional offices.

In the second level are 11 districts, where again administrative importance in the form of capital city possessing districts is evident : Imphal, West Tripura and Aizawl. Two enclaves around Dibrugarh in Upper Assam and Cachar in the Barak Valley are noticeable. Along with former are Tinsukia and Jorhat and with the latter Karimganj and Hailakandi. Of these the former group reflects the colonial heritage in contemporary development. Dibrugarh and Tinsukia were important tea areas in the past, as also today, while the latter is the major hub of commerce and business activity in Upper Assam and businessmen in Tinsukia control that only upper Assam's trade and commercial activity but also have a hand in that of eastern Arunachal's districts of Lohit, Tirap and Changlang.

**Table 6.6**  
**Composite Score Index**

District	Score	Rank	District	Score	Rank	District	Score
Kamrup	14.93	1	Bongaigaon	2.70	21	Lohit	- 2.4
E.K. Hills	11.81	2	Zunheboto	2.29	22	Lakhimpur	- 2.6
Kohima	10.25	3	N.C. Hills	2.05	23	Changlang	- 3.5
Imphal	9.94	4	Phek	1.88	24	Jaintia Hills	- 3.7
Dibrugarh	7.56	5	Dhemaji	1.73	25	W.G. Hills	- 3.8
W. Tripura	6.64	6	Lunglei	1.50	26	Tirap	- 3.8
Karimganj	6.34	7	Sonitpur	1.36	27	Karbi Anglong	- 4.5
Marigaon	5.61	8	Churachandpur	1.32	28	Ukhrul	- 5.2
Hailakandi	5.59	9	Bishnupur	1.17	29	West Kammeng	- 5.3
Mokokchung	5.53	10	Nagaon	1.15	30	E.G. Hills	- 5.5
Aizawl	5.44	11	Thoubal	1.14	31	Chandel	- 6.1
Jorhat	4.37	12	W.K. Hills	1.05	32	East Siang	- 6.5
Tinsukia	4.62	13	Golaghat	0.66	33	West Siang	- 6.9
Cachar	4.23	14	Sibsagar	0.32	34	L. Subansiri	- 7.0
Wokha	3.93	15	Tuensang	0.26	35	Tamenglang	- 7.2
Goalpara	3.33	16	S. Tripura	0.09	36	U. Subansiri	- 7.9
Barpeta	3.32	17	Mon	-0.32	37	Senapati	- 8.3
Dhubri	3.19	18	Darrang	-1.01	38	Dibang Valley	- 9.1
N. Tripura	3.01	19	Chhimituipui	-1.44	49	East kammeng	-10.5
Nalbari	2.90	20	Kokrajhar	-2.31	40	Tawang	-12.3

The Karimganj-Hailakandi-Cachar enclave is a densely populated tract that has intensive agricultural operations, reflected in the higher productivity of foodgrains compared to the state average and a higher value or output of major crops in per capita and per unit area terms compared to the state average. This area is also the thoroughfare for the states of Tripura and Mizoram and a part of Manipur, has the important centre of Silchar which is an entrepot market centre for Mizoram and a transshipment point from railways to feeder roads to Mizoram and Manipur and also the district of Cachar possess substantial tea growing areas.

These two enclaves apart, Marigaon and Mokokchung are the other districts in this category, of which the former lies in close proximity to Kamrup district while the latter, has in addition to the Nagaland Pulp and Paper Co. Ltd., which is the only large scale industry in Nagaland, a number of sericulture farms and citronella farms-cum-distillation units located within it.

The rest of the region has generally low levels of development. The entire state of Arunachal Pradesh, most of Manipur barring Imphal, those of Meghalaya barring the capital district and the outlying districts of Mizoram and Tripura fall in this category. The case of Arunachal Pradesh with its high elevation and limited accessibility is notable since most of its districts lie at the bottom of the region's relatively low developmental scale.

From the foregoing analysis it is clear that historical, administrative and physical factors have played an important role in influencing development in the region. Areas established as centres for extracting the region's natural wealth in colonial times or as centres of settlement are important till today : viz., Tinsukia, Dibrugarh, Cachar and East Khasi Hills. On this canvas, post independence centres of investment - the administrative centres have been superimposed. While the 'drag' of physical constraints is still strong, the 'push' of

industrial/developmental impetus is as yet in its incipient stages.

### 6.7. The Imprint of Development

Development is an ongoing process, that spreads unevenly over space. While a handful of centres in the NER have had an impetus to development since colonial times, another have been inducted under the path of development only later, still others continue to remain in the margins. Having identified the varying levels of development in the region, it will be useful to analyse the region in terms of districts which reflect the results of development, the potential for development and those that are in the process of developing.

**Table 6.7**  
**Results of Development**

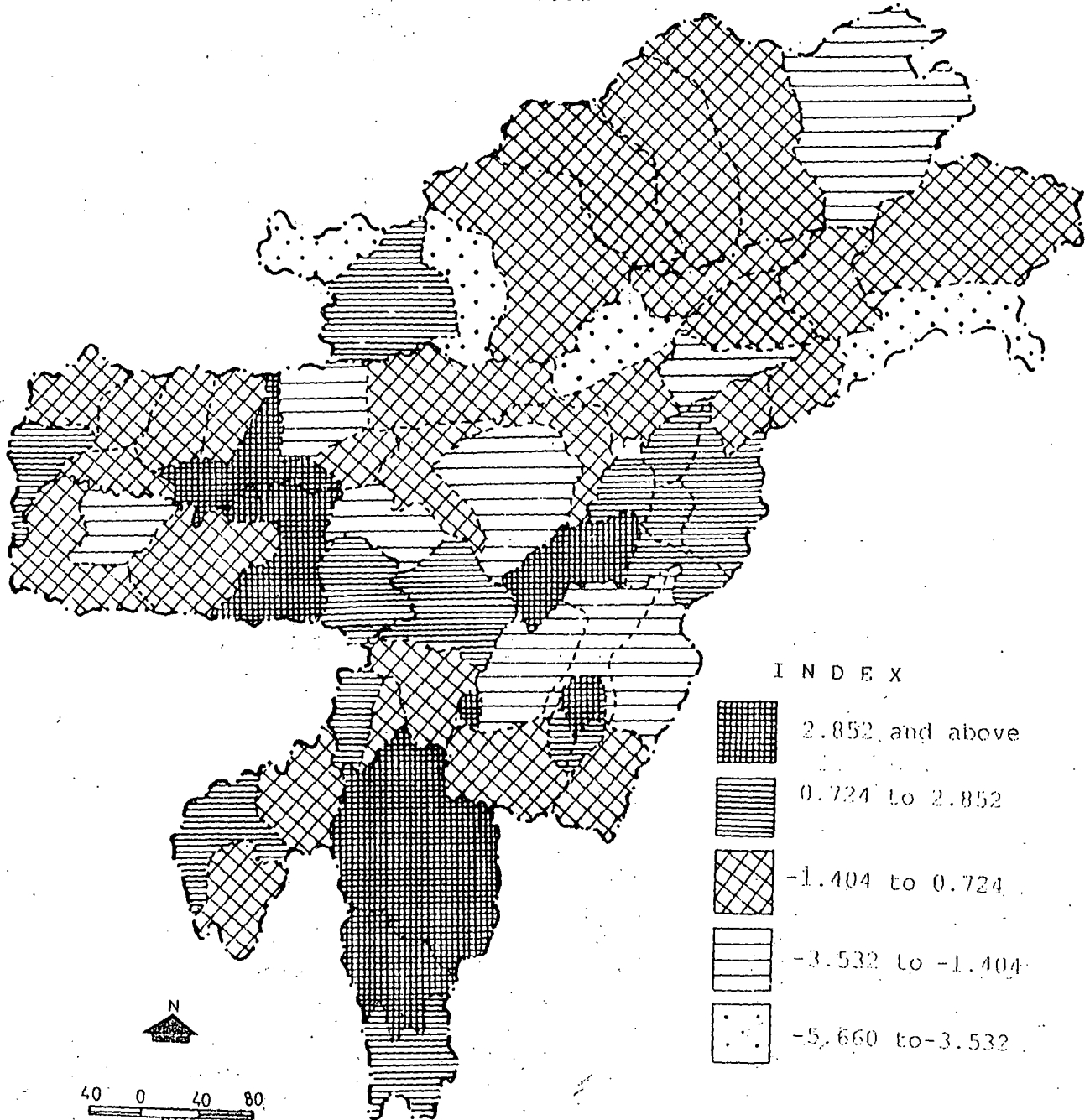
Composite Index Score	Level	Number of Districts
2.852 and above	I	6
0.724 to 2.852	II	14
-1.404 to 0.724	III	26
-3.532 to -1.404	IV	10
-5.660 to -3.532	V	4

Table 6.7 and Map 6.6 show that the spatial spread of districts that have been able to benefit from developmental efforts are limited to areas of administrative importance. In the first level, 5 of the 6 districts are districts with state capitals. While some hills area have derived some benefits from developmental efforts - as evident from the second level - the

NORTH EAST INDIA

LEVELS OF RESULT OF DEVELOPMENT

1991



map 7

peripherally located hills are yet to do so. Yet a distinction between hills and plains is not easy since many districts of the plains also fall in the lower categories. While most of the districts have derived some benefits, only one sixth, have either derived the maximum or minimum benefits, evident from the small number of 10 districts in the first and fifth levels.

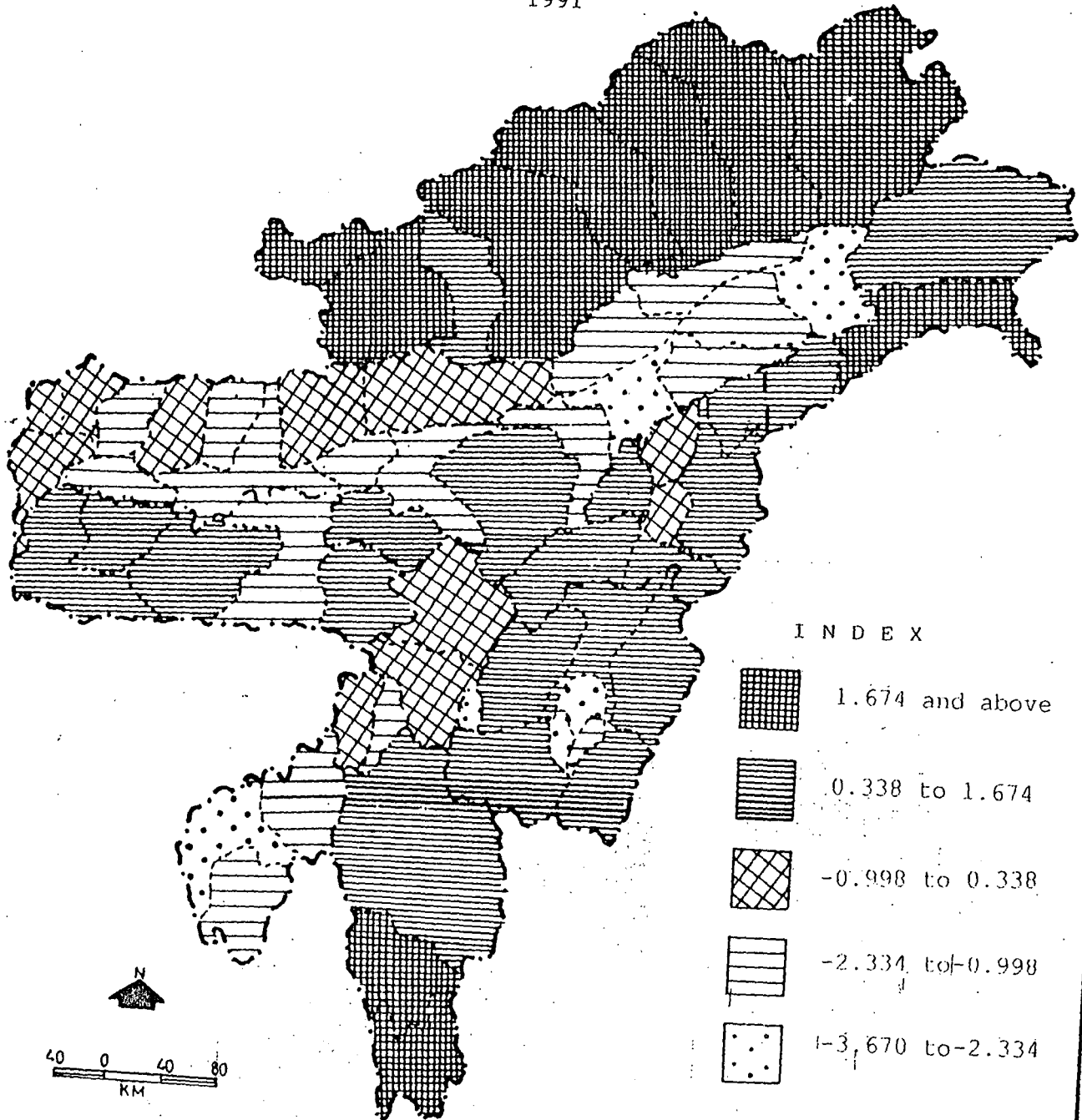
**Table 6.8**  
**Process of Development**

Composite Index Score	Level	Number of Districts
1.674 and above	I	10
0.338 to 1.674	II	19
-0.998 to 0.338	III	10
-2.334 to -0.998	IV	16
-3.670 to -2.334	V	5

Table 6.8 and map 6.7 represent the process of development. It shows that most of the districts of Arunachal Pradesh exhibit the maximum thrust of the process of development. Contrary to the earlier results of development scenario, where a handful of important administrative centres had derived the maximum benefits, here the picture is more balanced. The relatively developed districts identified in the earlier sections, seem to have reached a saturation level and are relegated to lower levels in the category. On the other hand, the poorly developed districts appear to be more strongly entrenched in the development process. However, there is an explanation for this.

NORTH EAST INDIA  
LEVELS OF PROCESS OF DEVELOPMENT

1991



map 8

In fact that these areas were late entrants to the development process meant that the base level from which the start was made were quite low and any improvements would registered as substantial gains. For example, an increase from say 1 to 15 would imply a fifteen fold increase, but a gain of 1 on a point scale, only 14 points. Compare this with a gain from, let us say 120 to 240 which is only a two fold increase, but a gain of a 120 points. Thus while the other areas - particularly the colonial centres of settlement and transport development started from relatively higher base levels, and could only show marginal increases in the process of development, the peripheral areas with low base levels of development made substantial gains in the same.

**Table 6.9**  
**Potential for Development**

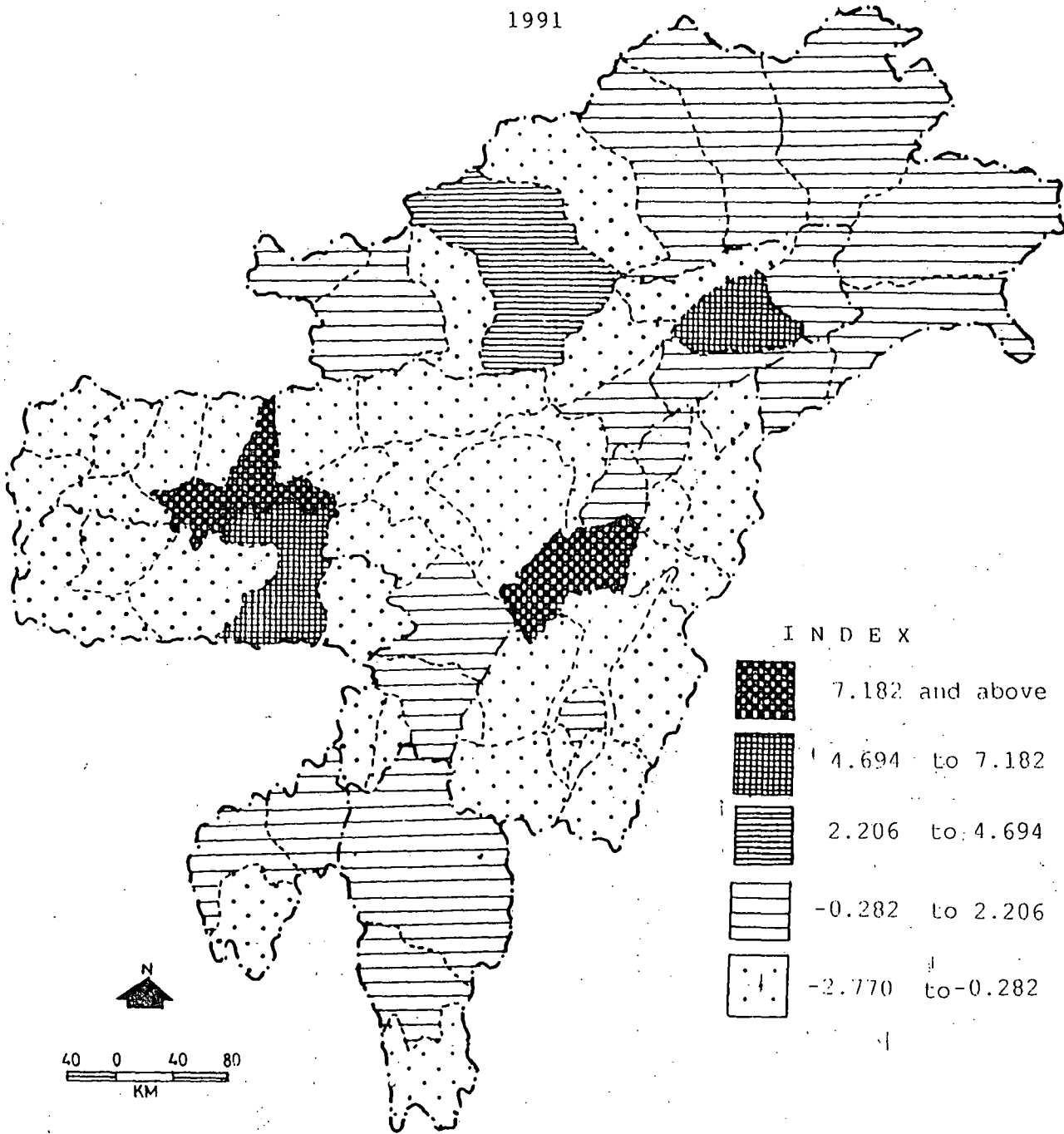
Composite Index Score	Level	Number of Districts
7.182 and above	I	2
4.694 to 7.182	II	2
2.206 to 4.694	III	1
- 0.282 to 2.206	IV	20
- 2.770 to - 0.282	V	35

Table 6.9 and map 6.8 shows districts with a potential for development. It is clear that sharp differences exist in the degree to which potential for development is present. In the first, second and third levels, only 5 districts representing only 8 percent of the total, are found. Apart from Dibrugarh, the remaining are capital districts and this shows that the process

NORTH EAST INDIA

LEVELS OF POTENTIAL FOR DEVELOPMENT

1991



map 9

of development has been such so as to have limited the impact to select areas, mostly administratively important. Incidentally such areas are also areas of concentration of urban literates, and thus while literate sections of urban society have reaped the maximum benefits, the majority of rural areas continue to flounder.

From the foregoing analysis it can be seen that the NER presents a scenario of bottom heavy development with a larger number of districts in the lower levels of development relative to the low level of the region itself. The areas identified as exhibiting high levels belong to areas of administrative importance, or areas that were important during colonial rule, rather than due to achievements in industry or agriculture. Thus an induced pattern of development is found. The hilly peripheral areas in some respects are constrained in achieving developmental results.

#### References

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2. CMIE : Profiles of Districts, November 1993.
3. Ibid., p. 24.

## CHAPTER VII

### EXPORT BASE DEVELOPMENT OR FAILURE

#### The Theory in Context of the Study Area

The theory of regional economic base, which is an offshoot of the theory of regional income determination, forwards that the sole or primary factor determining the overall level of activity in a region is the level of activity in those sectors or fractions of sectors, which are sustained by demand outside the region,<sup>1</sup> as seen in Chapter 2.

Douglass C. North explained that a region's growth "is closely tied to the success of its exports and may take place either as a result of the improved position of existing exports relative to competing areas or as a result of the development of new exports".<sup>2</sup> For North, the export base or basic sector of an economy not only influenced the growth of a region, but it also helped, by its spatial spread, identify the boundaries of a region "around a common export base".<sup>3</sup> However, Tiebout held that the larger the region, the smaller was the role of export.<sup>4</sup>

The conceptual framework of the export base theory has been considered in the context of the North Eastern Region of India, although considering the size of the region, at 255,000 square kilometres, it is possibly larger than what Tiebout theorized. The fact that most researchers in regional analyses held that there is no ideal size, coupled with the importance of

the export sector in the region since colonial times prompted considering the NER in the export base framework, although it has been shown (Chapter II) by one study that the theory does not seem applicable to India.

Also important, was the nature of the regional economy. The region since colonial times developed an export sector that was sustained by external demand. The plantation sector remained since the post 1950s, the largest industry in the region and naturally the bulk of tea produced was "exported" outside the region and a good share of it reached markets abroad. Similarly, petroleum developed into an export base sector. Largely both the sectors are concentrated in Assam and in order to give some emphasis to the North Eastern Region as a whole, and to understand the theory of export base vis-a-vis the latter, the forest sector which is important not only in Assam but also in the states of Arunachal Pradesh, Meghalaya and Nagaland - was also included.

The present chapter tries to understand how the tea, petroleum and forest sectors have behaved in the context of the base theory, and whether the region's growth or lack of it is explained by this theory.

## PETROLEUM

### 7.2. Petroleum

Petroleum is a mineral that exists under the ground in liquid or gaseous forms or as a combination of both. Literally meaning 'rock oil', petroleum and its products have an important place in the modern industrial world. This mineral, generally contains hydrogen and carbon in varying proportions and includes crude oil, natural gas, natural gasoline and shale oil and impurities such as sulphur compounds and nitrogenous substances. The mixed chemical composition and its occurrences are associated with anticlines and fault traps in rock formations of Mesozoic or tertiary times. Petroleum is of animal and vegetable origin first formed in sedimentary beds that later migrated to varying depths in porous underground rocks. Although deposits are sometimes exposed at the surface, following elevation or uplift during periods of organic activity followed by erosion to form tar deposits, and occasionally near surface deposits seep through to the surface through natural fractures and fissures in the crust, aided by erosion or weathering, the vast majority of petroleum deposits lie at depths from 150 to 7,600 metres below the surface of the ground.<sup>5</sup> Such traps created between porous layers like sandstone or limestone, surrounded by nonporous rocks like shale, being the result of accumulations of liquid or gas in rocks originally containing water, often results in water production accompanying the production of oil and gas.

The economic importance of petroleum and natural gas is immense and is compounded by its relative scarcity in many areas of the world. Petroleum and its products are not only used as the prime motive force for all transportation industries (from aviation spirit and motor spirit to high speed diesel oil) but also as the source of raw materials (as a base in paints and varnishes, wax, bitumen for road making, and petrochemicals) for a wide range of industries and as lubricants.<sup>6</sup>

Since its discovery in 1859 by a Col. Edwin Drake in Titusville, Pennsylvania, USA, it has grown in importance by leaps and bounds. Seven years after Titusville it was discovered in Digboi, Assam and commercial production of oil in Assam was started in 1889. In 1901 the Digboi refinery was commissioned by the Assam Oil Company, later to be taken over by the Burmah Oil Company. Digboi was India's first refinery till independence and a even few decades after that remained one of the two important oil and natural gas producing regions of the country. After independence areas neighbouring Upper Assam such as the Tirap district of Arunachal Pradesh and the Tuensang district of Nagaland came on the oil producing map of India as well as Tripura and today prospects of further discoveries in Assam and neighbouring areas remain bright. However, the present analysis is confined to Assam which is the most important of the North Eastern States in terms of historical and currently proven reserves of exploitable natural oil and natural gas.

The discovery of oil at Digboi at relatively shallow depths was quickly followed by the discovery of the Naharkatiya oilfields in the early fifties and subsequently at Moran, Lakur, Galeky and Rudrasagar and other areas like Teok, Hugrijar and Doom Dooma and a belt of rich oilfields roughly between Jorhat-Golaghat-Digboi-Naharkatiya emerging, along the south bank of the Brahmaputra. Cachar district is also a reasonably important oil producing area of Assam.

The importance of the region to the country as a whole can be gauged from the fact that until 1961 Assam was the sole oil producing state in India, and only the entry of the Gujarat oilfields was the monopoly broken. Later, the Bombay off-shore oilfields, which started production in 1976 reduced the primary dominance of Assam.

About 55 percent of the state's total area is made up of sedimentary rocks and has oil bearing potential.<sup>7</sup> In fact, one estimate by a Dr. Fularia in a conference in 1988 holds that :

"North East India is floating on oil. At least 10,000 million tonnes of undiscovered oil and gas is present in the region comprising Upper Assam Valley, Naga Hills and Tripura-Manipur Area. Through proper planning the North-East alone can remove the deficient indigenous petroleum production in the country before the end of the present century. Only 20 percent of the total hydrocarbons present in Upper Assam valley have so far been discovered. The remaining nearly 5,000 million tonnes of oil and oil equivalent gas in place is yet to be discovered".<sup>8</sup>

A view that has neither been corroborated nor contested by Oil India Ltd. or ONGC, as noted by Barua.<sup>9</sup> Much along these lines, the ONGC holds that <sup>10</sup> only about 10 percent of the total potential of North East India in terms of petroleum has been discovered so far. Although most of the fields have been in the Upper Assam Valley (in which only about 20 per cent of the total hydrocarbons present has been discovered with about 6,000 million tonnes of oil and oil equivalent gas remains as potential reserve). The Tripura-Manipur region holds immense prospects and the region may turn out to be the most prospective basin of India with giant and super giant oil and gas fields in it, of which only one per cent of the oil and gas present has been discovered. The same report noted :

"With proper planning, exploratory development and production efforts, North East India alone can make the country self-sufficient in petroleum production before the end of the century".

What is more tangible is that although Assam's relative dominance declined since the operationalization of the Bombay Off-Shore fields, it nonetheless contributes substantially at present, a trend continuing since the 80s (Table 7.1).

Table 7.1  
Oil Production in Assam and All India

Year	On Shore			Off Shore	% India's	% India's Total	
	Arunachal Pradesh	Assam	Gujarat	Bombay High	On Shore Assam	Assam	Gujarat
1970-71		3367	3455			49.36	49.36
1971-72		3630	3669			49.73	49.73
1972-73		3609	3712			49.30	49.30
1973-74		3589	3600			49.92	49.92
1974-75		3814	3870			49.63	49.63
1975-76		4300	4148			50.90	50.90
1976-77		4305	4187	406		50.69	48.38
1977-78		4534	4155	2074		52.18	42.12
1978-79		4085	4232	3310		49.11	35.13
1979-80		3578	3766	4422		48.72	30.41
1980-81	2	1712	3808	4985		31.00	16.29
1981-82	2	4795	3422	7975		58.34	29.61
1982-83	1	5000	3185	12877		61.08	23.74
1983-84	31	5009	3588	17392		58.05	19.25
1984-85	51	4893	3910	20136		55.26	16.88
1985-86	60	4966	4319	20823		53.14	16.46
1986-87	51	5239	4561	20618	5	53.15	17.19
1987-88	36	5154	4989	20164	14	50.56	16.98
1988-89	35	5457	5404	21112	31	49.94	17.03
1989-90	38	5812	6313	21716	208	46.98	17.05
1990-91	43	5076	6398	21191	313	42.91	15.37
1991-92	42	4988	6035	18963	318	43.81	16.48
1992-93	59	4986	5807	15746	352	44.50	18.50
1993-94	49	5090	5976	15375	536	43.69	18.84

Source : Current Energy Scene in India, May 1994, CMIE, Bombay.

After 1976-77 when offshore production started Assam's share of the total country's production declined from over 50 per cent in 1975-76 to 30 per cent in 1979-80, 23 per cent in 1982-83 and below a fifth of the country's total then onwards. In 1990-91 Assam produced only 15 per cent of the country's share with Bombay High accounting for about 64 per cent. However, Assam remains, along with Gujarat, the main on-shore producers contributing between 61 per cent to 43 per cent in the years 1982-83 till 1990-

91, respectively. In addition, Assam along with Nagaland has about 144.95 million tonnes of proven and recoverable reserves of crude oil<sup>11</sup> compared to India's total of 757.4 million tonnes. Assam has proven reserves amounting to about 47 percent of the onshore reserves of 306 million tonnes.

Considering the importance of Assam in the petroleum sector with the country and its overwhelming dominance in the regional economy the development of refining capacity and development of associated industries particularly petrochemicals has remained rather stunted. Naturally in the colonial period, foreign capital dominated Assam's oil industry and Assam Oil Company (AOC) emerged from the earlier Burma Oil Company (BOC), with 49 percent British capital; even the Oil India Limited (OIL) has 49 percent British Capital. In fact upto 1981 when the OIL and AOC were rationalised by the Government of India, foreign capital remained important.

However till the 50's, all Assam had for its oil was a baby refinery at Digboi with technology that was obsolete by then. It was mainly oriented to meet the requirements of the flourishing tea industry which were mostly heavy oils, furnace oil etc.<sup>12</sup> The local people made consistent demands for a big refinery in the mid 50's. As a political scientist has observed : "...the Government of India decided much against the popular will to establish the refinery at Barauni in Bihar to process the crude oil produced in Assam. In order to transport the crude from

Upper Assam oilfields to Barauni, a 1400 km. long pipeline which is one of the longest in the Third World was constructed during the early sixties."<sup>13</sup>

Such a decision was not only against popular demands of the Assamese but also overriding expert opinion by a group of Soviet experts commissioned by the Government of India. Soviet experts suggested setting up the large refinery at Silghat near Nowgong. The 36th Lok Sabha Committee Report on Public understandings observed that :

"In retrospect it was an entirely wrong decision to have located the refinery at its present site (Barauni), a decision taken, in spite of strong objections on technical grounds both from the Indian and Russian experts".<sup>14</sup>

The Report gave the comparative costs of refinery in Gauhati, Barauni and Gujarat refineries as Rs. 21.00, Rs. 37.93 and Rs. 37.48 respectively.<sup>15</sup> In spite of such overriding economic and technical locational advantages, on purely political compulsions, the large size refinery was located 1400 Kms. away at Barauni. Assam was quietly deprived of that refinery and to pacify the people another mini-refinery was cleared at Noonmati near Gauhati.

A similar agitation was required by the Assamese before New Delhi once again decided to act with 'benevolence' and accord another mini refinery, this time at Bongaigaon. But for all the

agitations, Assam had a total refinery capacity of 2.35 million tonnes per annum (Table 7.2). Compared to this Barauni, which was built on crude transported from Assam, alone had a capacity of 3.3 million tonnes per annum.

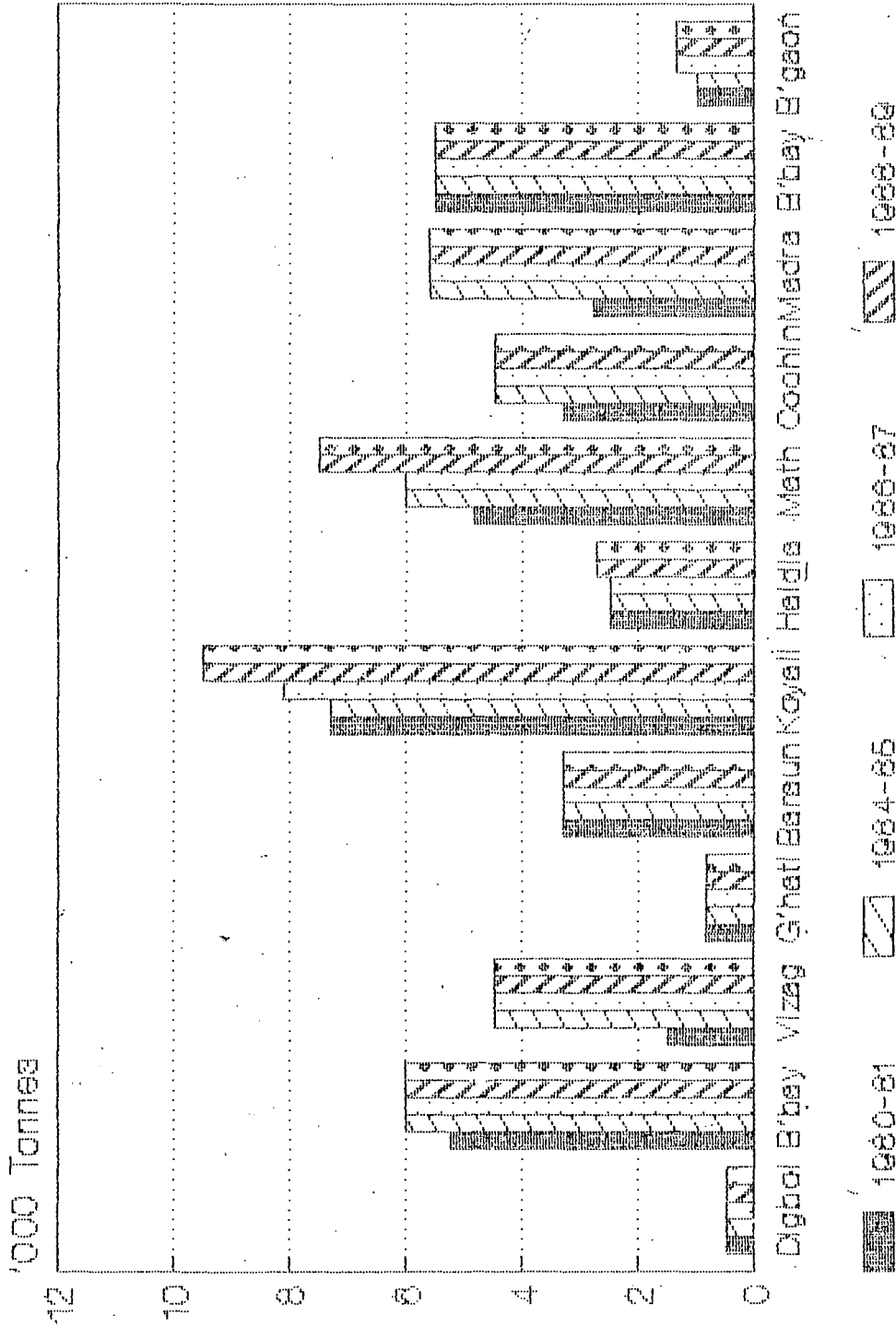
Table 7.2  
Refining Capacity of Indian Refineries, 1980-81 to 1992-93

Company/Location	Refining Capacity per Annum ('000 tonnes)				
	1980-81	1984-85	1986-87	1988-89	1992-93
IOC, Digboi	500	500	500	500	500
BPCL, Bombay	5250	6000	6000	6000	6000
HPCL, Bombay	5500	5500	5500	5500	5500
HPCL, Vizag	1500	4500	4500	4500	4500
IOC, Gauhati	850	850	850	850	850
IOC, Barauni	3300	3300	3300	3300	3300
IOC, Koyali	7300	7300	8100	9500	9500
IOC, Haldia	2500	2500	2500	2750	2750
IOC, Mathura	4800	6000	6000	7500	7500
CRL, Kochin	3300	4500	4500	4500	4500
MRL, Madras	2800	5600	5600	5600	5600
BRPL, Bongaigaon	1000	1000	1350	1350	1350
<b>Total Capacity :</b>	<b>33800</b>	<b>47550</b>	<b>48700</b>	<b>51850</b>	<b>51850</b>

Source : Current Energy Scene in India, June 1994, CMIE, Bombay.

Between 1980 and 1992 while the all India refining capacity jumped from 33.8 million tons per annum to 51.85 million tons, the refinery capacity of the 3 mini refineries of Assam crawled from 2.35 MTPA in 1980-81 to 2.70 MTPA in 1986-87 and remained static thereafter till 1992-93. Although Assam made substantial contributions to the nation's oil output and continues to contribute substantially to the country's on-shore output the capacity of the 3 Assam refineries out of the country's total refinery capacity is miniscule and was 6.95 per

# REFINING CAPACITIES OF REFINERIES



CMIE, 1994

cent in 1980-81, 4.94 per cent in 1984-85, 5.5 per cent in 1986-87, 5.2 per cent in 1988-89 and at present.

This points to the tardy growth of the petroleum sector in Assam, and since petroleum refining has been almost entirely (except in the recent years since liberalization when private enterprise in exploration has been allowed) in the control of the Central Government, it has been an outcome of the lack of importance given to this sector in this peripheral part of the country. During the years 1979-1985 when questions pertaining to the economic neglect and underdevelopment of Assam were raised, the oil sector's stunted growth was one issue often cited as proof of the Centre's discriminatory attitude towards the state.

As one outcome of the 1979-85 agitation the Assam Accord of 1985 sought, among other provisions, "to establish an oil refinery in Assam" and the Numaligar refinery which is currently on the anvil and is due to go into operation in 1998, was one outcome.

### 7.3. Natural Gas

Natural Gas which occurs in conjunction with oil in oilfields or separately as gas fields has tremendous heating power and although it has been exploited relatively recently it holds tremendous potential in the future. Given the likelihood of future discoveries being more in the form of natural gas<sup>16</sup> rather than petroleum along with its clear nature as a fuel, it will be

a significant factor in meeting future energy demands. In addition, it has immense scope of usage in the chemical industry for manufacture of synthetics, fertilizers, in the petroleum refining process and in the food, paper and pulp industry. Particularly in the chemical industry natural gas supplies an ideal feedstock (raw material source) in manufacturing industrial gases such as methanol, acetylene, helium and hydrogen.<sup>17</sup> Yet, by far the most important use of natural gas is as a source of energy and it is used as a fuel in many parts of the world.

Considering that energy is the main input for industrial growth, the North Eastern Region of India is fortunate in possessing substantial reserves of natural gas which have been proven in Assam, Tripura and Nagaland and as potentially existing in Arunachal Pradesh. The present analysis is confined to Assam since it has been a major producer of oil-field associated (on-shore) natural gas. Digboi, Naharkatia, Hagrijan, Doom-Dooma, Moran, Rudrasagar, Lakwa, Demulgaon, Sonari, Amguri, Changmaigaon, Charali, Adamtila, Badarpur, Khoraghat-Uriamghat, Teok and Galeki are some of the major oil-fields where natural gas is found in Assam which is the major producer of natural gas in the NER, producing about one fifth of the country's natural gas production and possesses about the same share in terms of proven reserves.<sup>18</sup> Apart from Bombay High, Assam is the biggest producer and largest storehouse of this invaluable underground power source. In recent years along with the discoveries of oil in Tripura, Arunachal Pradesh and Nagaland, natural gas production

in a small way, has started in Tripura and Arunachal Pradesh as evident from Table 7.3.

**Table 7.3**  
**Gross Production of Natural gas in India**  
(Million cubic metres)

Year	Assam	Arunachal Pradesh	Tripura	Gujarat	Bombay High
1970-71	980	-	-	465	
1975-76	1565	-	-	773	
1980-81	843	-	-	842	673
1985-86	2335	-	-	919	5180
1986-87	2155	6	22	971	6705
1987-88	2160	13	43	1005	8259
1988-89	2178	18	50	1258	9731
1989-90	2182	23	106	1316	13088

Source : Basic Statistics of the North Eastern Region, 1992, NEC, Shillong.

Prior to the initiation of offshore drilling from Bombay High Assam produced over 67 percent of India's natural gas production upto 1975-76, when only Assam and Gujarat were the producing states. With the onset of offshore drilling in Bombay High, the importance of Assam has declined relatively and the North Eastern states account for a slowly decreasing proportion of 19.3 percent (1987-88), 16.9 percent (1988-89), 13.5 percent (1989-90) of India's total production.

In terms of recoverable resources Assam, Tripura and Nagaland account for over one-fifth of the country's proven reserves, Assam alone possessing 18.6 per cent or 135 billion cubic metres of India's 729 billion cubic metres of reserves in 1991 (Table 7.4).

**Table 7.4**  
**Proven and Balance Recoverable Reserves of Natural Gas**  
 (Billion Cubic Metres)

Year	Gujarat	Assam	Rajasthan	Bombay High
1970	19.66	42.82	-	-
1975	15.72	65.24	0.43	6.28
1980	16.39	63.53	0.43	270.96
1985	21.87	87.67	0.54	368.55
1990	92.58	135.47	1.04	457.36
1991	93.39	151.68	1.22	483.50

\* - Including Tripura and Nagaland

Source : Basic Statistics of the North Eastern Region, 1992, NEC Sect., Shillong.

Although the NER possesses significant reserves of natural gas, the current process of exploitation, in which flaring of gas is resorted to, does not auger well for the future. Proper utilisation of this resource could have transformed the economy of the region through the multiplier effects.<sup>19</sup> An ONGC official estimates that about 5.04 cubic metres of gas is flared every day in Assam.<sup>20</sup> Taking the value of gas along the HBJ pipeline at Rs. 2500 per thousand cubic metres as the base price, this flaring would amount to Rs. 12.6 lakhs daily and Rs. 46 crore annually.

An even more alarming picture emerges if the current production and utilisation statistics are analysed.

Table 7.5  
Production and Utilisation of Natural Gas in Assam  
(Thousand Cubic Metres)

Year	Production	Utilisation	Flaring
1990-91	2002,601	1243,467	759,134
1991-92	2046,009	1217,028	828,981
1992-93	2026,044	1263,561	762,483
Total	6074,654	3724,056	2350,590

Note : Figures rounded to the nearest thousand.

Source : The Assam Tribune 23rd March, 1994.

An average of 21.46 lakh cubic metres was flared daily during the triennium. While it is true that some proportion of natural gas is lost in shrinkage, internal use and flaring, that more than 38 per cent should be squandered in this manner is simply wasteful. At Rs. 2500 per thousand cubic metres, annual flaring in Assam can be valued at Rs. 1.95 crores. This is the contrast with ONGC estimates of flaring. Moreover, the all India figure of natural gas lost by flaring, internal use and shrinkage is projected to be about 22 per cent only.<sup>21</sup>

There appear to be considerable discrepancies between the two estimates as above. Recently the Centre for Monitoring Indian Economy (CMIE) has come up with statistical data relating to natural gas production and flaring which deserved consideration (Table 7.6).

Table 7.6  
Natural Gas Production And Flaring in Assam and Gujarat  
1970-71 to 1992-93

(million cubic metres)

Year	Gujarat		Assam		% Flaring to Total Production	
	Gross Production	gas Flared	Gross Production	gas Flared	Gujarat	Assam
1970-71	465	155	980	607	33.3	61.9
1971-72	523	143	1595	625	27.3	39.1
1972-73	531	117	1034	536	22.0	51.8
1973-74	518	144	1195	692	27.1	57.9
1974-75	653	121	1388	830	18.5	59.8
1975-76	773	136	1595	946	17.6	59.3
1976-77	822	131	1558	678	15.9	43.5
1977-78	893	147	1717	818	16.4	47.6
1978-79	908	164	1518	607	18.06	40.0
1979-80	840	178	1385	616	21.1	44.4
1980-81	842	146	843	257	17.3	30.4
1981-82	758	77	1748	768	10.1	43.9
1982-83	750	55	1829	876	7.3	47.9
1983-84	748	67	1954	1025	8.9	52.4
1984-85	775	85	2058	1074	10.9	52.1
1985-86	919	118	2035	887	12.8	43.6
1986-87	971	184	2155	886	18.9	41.1
1987-88	1005	268	2160	727	26.6	35.6
1988-89	1258	356	2178	730	28.3	33.5
1989-90	1613	478	2182	689	29.6	31.5
1990-91	1696	402	2040	621	23.7	30.4
1991-92	1898	318	2082	703	16.76	33.7
1992-93	1946	229	2086	685	11.7	32.8
Total	22105	4219	39315	16883	19.08	42.94

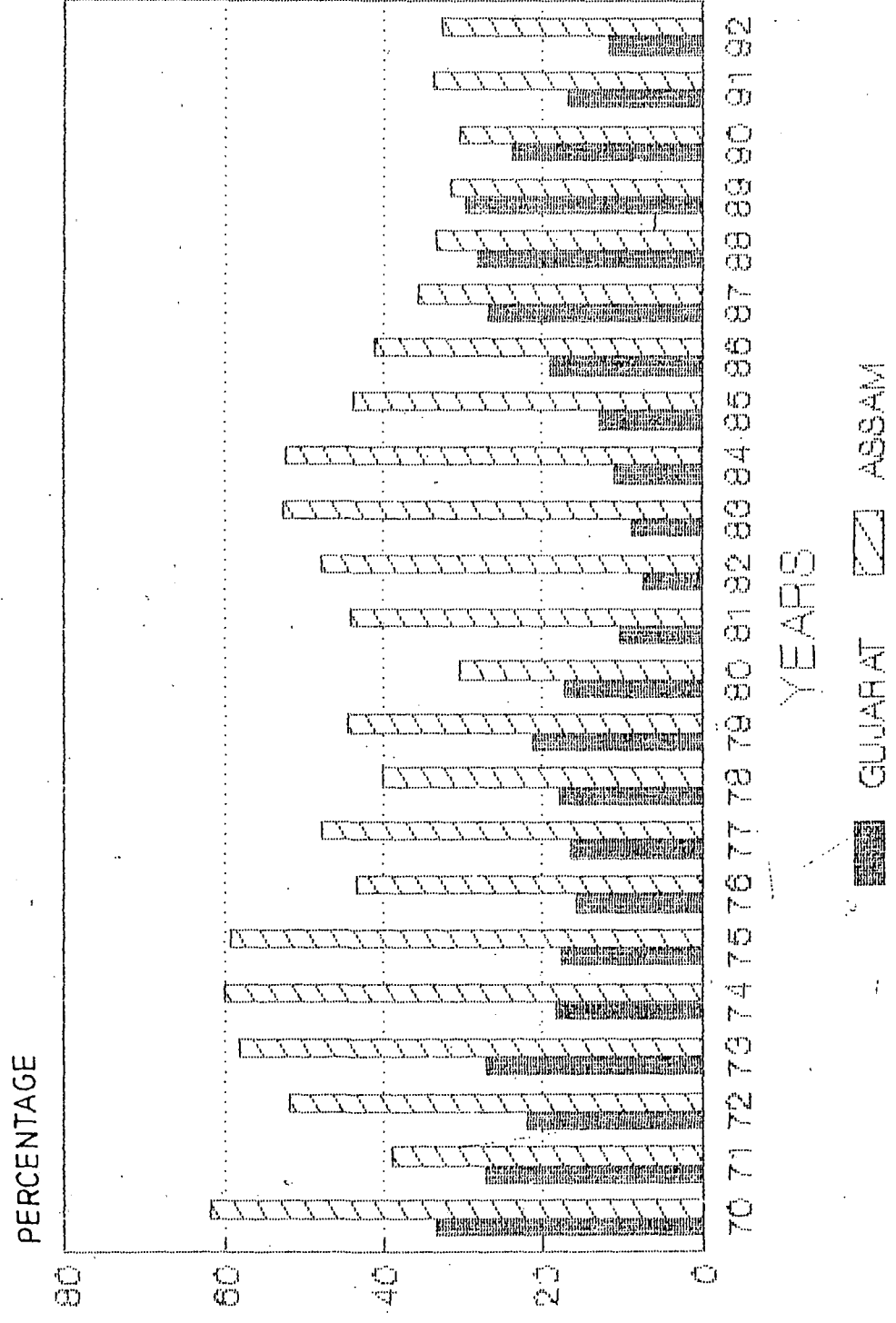
Source : Current Energy Scene in India, June 1994, CMIE, Bombay

The proportion of flaring in Assam for the period 1970-71 till 1992-93 stood at a high percentage of 42.94, more than double of what ratio was flared in Gujarat.

While flaring was reduced in Gujarat consistently and was as low as 7.3 percent to 10 percent during the early eighties, during the corresponding years it was more than 32 percent in

# FLARING OF NATURAL GAS

1970-71 to 1992-93



Diag. 5

Assam. Since the late eighties the central government allowed use of natural gas in power generation. Since then demand for natural gas soared, while production stagnated, the CMIE Current Energy Scene in India (1994) notes; naturally this resulted in a significant decline in flaring from 34 percent in 1989-90 (all India) to 10 percent in 1992-93.<sup>22</sup> For some abstruse reasons such an occurrence did not take place in Assam, and while the flaring proportion out of total production for all-India was 10 percent in 1992-93, it remained more than three times this mark at 32.8 percent in Assam for that year.

A comparison with Gujarat's rate of flaring is useful to get an idea of the magnitude of wastage in Assam. Gujarat and Assam are also comparable since both are on-shore gas producers unlike the Bombay High-Bassein gasfield. Between the period under review, Gujarat flared off 4219 million cubic metres out of a total production of 22,105 m m<sup>3</sup>. Whereas Assam flared 16,883 m m<sup>3</sup> from a production total of 39,315 m m<sup>3</sup> which were 19.08 per cent and 42.94 per cent respectively. There can be little doubt that the trends of utilization of this valuable non-renewable and finite resource are extremely wasteful in Assam.<sup>23</sup> However, using the rate of flaring in Gujarat a rough idea of the volume of wastage in Assam can be derived. Given the average rate of flaring in Gujarat between 1970-71 to 1992-93 as normal, we can considered a volume of 19.08 per cent flaring as necessary and part of the extraction process. By the yardstick, 9381.7 million

cubic metres of natural gas have been unnecessarily flared in Assam, in excess of losses due to internal use, shrinkage etc.

In value terms 9381.7 million cubic metres is worth Rs. 2345.4 crores considering the base price of gas at Rs. 2500 per thousand cubic metres. This loss of valuable natural gas is a loss to the regional and national economy, magnified by the short span of 22 years, which means that we can safely conclude that more than double this amount has been unnecessarily lost since independence if the 1947 to 1970 period is considered as well. In value terms of current prices no less than Rs. 4700 crores has been wasted, something a backward underdeveloped economy within the realm of India's developing economy can ill afford.

Even if the pre-70s period is ignored on grounds that natural gas production would have been much lower, and hence flaring would have been much less; although this again is a doubtful proposition since with the antiquated technology existing in the pre-70s wasteful methods would have caused greater flaring, only between the 70s and 90s. The extent of flare off is estimated at Rs. 2345 crores, implies an annual loss of 106.5 crores of rupees, and daily loss of 29.18 lakh rupees.

If however, instead of considering the base price of gas at the HBJ pipeline of Rs. 2500 per 1000 m<sup>3</sup> as the norm, if we consider a yardstick of Rs. 2000 per 1000 m<sup>3</sup> as was suggested by the Kelkar Committee, the flaring over and above Gujarat's

ratio of 19.08 percent would amount to no less than Rs. 1876.3 crores for Assam between 1970-71 and 1992-93 at an annual rate of Rs. 85.28 crores and a daily flare off worth 23.36 lakhs.

If a measure of the value of the total gas flared since the 70's till date is considered at Rs. 2500 per 1000 m<sup>3</sup> and Rs. 2000 per 1000 m<sup>3</sup> rates would work out to be Rs. 4200 crores and Rs. 3376 crores respectively. Converting to annual losses these would be Rs. 191.8 crores and 153.4 crores respectively, or Rs. 52.5 lakhs and Rs. 42 lakhs daily respectively.

Similar estimates have considered flare off losses amounting to Rs. 144 crores annually during the 70's and early 80's by a senior geologist<sup>24</sup> and at a total loss amounting to RS. 1900 crores between 1970 and 1987 or roughly Rs. 30 lakhs worth daily by a senior official of the Refinery and Petro-Chemicals Division of the AIDC<sup>25</sup> and at Rs. 2000 crore losses in the decades 1970-1990 or roughly Rs. 30 lakhs daily.<sup>26</sup> However all these estimates would consider the value of total flared amounts, whereas our estimate consider the value of the flared portion in excess of what occurs in Gujarat (above 19.08 percent) and we can hold this as being in the range of RS. 2345 crores to 1876 crores in the 22 years between 1970-71 and 1992-93.

Such a waste of resources is unpardonable and is a pointer to the total absence of proper planning on the part of the OIL and ONGC, the two public sector units engaged in gas

exploration and utilisation. The often cited defense is that daily production is well in excess of daily demand and that the two main consumers of natural gas in Assam, the Assam State Electricity Board (ASEB) and the Hindustan Fertilizer Corporation Limited (HFLC), consume only between 45 to 60 per cent of the total production, causing the balance to be flared off.

However the editorial of a regional daily points out the untenability of the above :

"...the complaint about the slow rise in demand for natural gas being the principal cause for its large scale flaring is a falsehood, is best borne out by the situation in Assam. For decades, the Assam State Electricity Board (ASEB) has been demanding a higher attainment of natural gas for generation of electricity. Likewise the demands of other State public sector units for gas have also been turned down...on the plea that the gas was committed to other consumers. In all these years, the 'other consumers' do not seem to have made their appearance. Permitting the ASEB to use the gas for generating scarce electricity would have been a much better proportion than flaring it."<sup>27</sup>

Moreover, although the OIL and the ONGC state non-availability of demand and seasonal (and even hourly and daily fluctuations) fluctuations of demand by consumers, occasionally it is not lack of demand that necessitates flaring rather the technical lapses on the part of the monitoring agencies that cause problems requiring flaring gas. For instance a senior OIL personnal states that during 1983-84 and 1984-85 gas flaring had to be resorted to due to "low gas injection arising out of

operational problems with their compressors and delays in purchase of new compressors."<sup>28</sup> Elsewhere another senior state official points out that :

"One of the reasons for lower utilisation of the committed gas on the OIL and the ONGC in the past happened to be inadequate compression facilities of these two organisations. This was due to delay in policy decision at the ministry level in giving go-ahead to the proposals of OIL and ONGC for replacement of outaged compressors."<sup>29</sup>

Whatever the reasons may have been, the fact remains that colossal waste of a national resource has been going on endlessly these past few decades. Assam's loss has been the nation's loss. It has not been that there were no alternatives left rather than to resort to flaring the 'excess' gas.

In technologically advanced countries like USA natural gas is stored in a porous layer of rock, into which the gas is forced down from a compressor station or in what is known as pipeline storage wherein the gas is stored under greatly increased pressure, in the pipeline itself.<sup>30</sup>

Such technology is neither new nor very state-of-the-art, and was first practised in 1915 in Welland county, Ontario, Canada and since the 1950's widespread use of this technology was made the world over. In USA and Canada more than 400 underground storage reservoirs are presently in operation.<sup>31</sup>

Along these grounds both OIL and ONGC have made attempts to reduce flare off by injecting gas into underground storage reservoirs. Yet the question is did such attempts have to be put off till more than 4 decades after independence ? The fact is such attempts have been undertaken only in the early years of the present decade. OIL started a scheme for storage of 800,000 standard cubic metres per day injecting the gas into 5 partially depleted non-associated gas reservoirs in the Naharkatia and Jorajan oilfields into depths varying between 2200 and 2600 metres.<sup>32</sup>

A similar method was used by the ONGC in injecting gas into underground reservoirs in Amguri, near Jorhat, and it was to have been operational by 1993.<sup>33</sup>

However from the consideration of wastage of natural gas that has been flared off all these decades before bringing in underground storage technology, "In India, where such technology may neither be available nor feasible to implement there is the dual option of :

- (a) transporting the gas by pipeline to other parts of the country where it can be consumed, or
- (b) setting up gas based plants to utilise the gas".<sup>34</sup>

In addition there remained a third option of utilising the natural gas as feedstock for a wide variety of petrochemical industries.

Each of these options need consideration. Transportation of gas by pipeline allows gas to be transported thousands of kilometres in the USA under conditions of pressure of 70 kgs. per square centimeter. Due to pressure losses over distance, the pressure is boosted at regular intervals to keep a constant flow rate in the pipeline. Economic surveys reveals that a compression station is ideally located at distances of 80 kilometers to 100 kilometres apart to be most economically advantageous.<sup>35</sup> In Assam's case, if local demand is not sufficient by itself as is the case, there is little cause to resort to flaring, when within about a thousand kilometres the states of Bihar and West Bengal can be ready markets.

Transportation of natural gas naturally requires some investments and often political decisions are made over and above economic or sustainability/conservation oriented considerations. Under western European conditions one study suggested that where low pressure natural gas is found and where it is possible to use it, it is better to generate near the source and to transmit electrical energy. If on the other hand the gas is found at high pressure lower compression costs allow pumping upto 400 kms. away.<sup>36</sup> However Manners<sup>37</sup> notes that this again varies as in the USA in place of 400 kms., gas is piped over close to 3000 kms. from Texas to Boston.

Closer home it has been established that it will be economically viable to import gas from Oman or Iran and link the

southern region of India, according to an expert study commissioned by the Petroleum Ministry. The logistics of such a project involving some 3200 kms. dwarfs the transport of natural gas from Assam, or for that matter Tripura to other parts of eastern India.

The second option is to set up gas based thermal plants to utilise the natural gas instead of flaring it. The fact that the Kathalguri gas based 291 MW plant is being connected by a 1200 km. long pipeline via Malda in West Bengal with the eastern grid undoubtedly augers well for the future, yet it also highlights the total inadequacy of measures till date to curtail or minimise the flaring of gas.<sup>38</sup> Such a gas plant and pipeline could have been established some four decades ago, and thus would have minimised, in no small measures, the waste of flaring which has been going on for several decades. Of course it is easy to be critical in retrospect, however, the complete absence of perspective planning by the centre and the public sector is difficult to understand in an age when phrases like "sustainable development" have become unavoidable realities. While in Gujarat the country's first gas-based sponge iron plant at Hazira, Essar Gujarat Limited, became operational in 1990,<sup>39</sup> in Assam such a proposal by AIDC was quickly shelved. Along these lines, the Assam Gas Cracker involving in excess of Rs. 3000 crores could have been planned a few decades earlier. While the 1638 km. long HBJ pipeline was planned since the 1980's to utilise the gas of

Bombay High and Gujarat, there were no plans for the eastern region's gas.<sup>40</sup>

From the third option of setting up petrochemical industries, the vision of the centre in planning the Bongaigaon Petrochemical and Refinery Limited (BRPL) was path breaking for the NER and it was expected to cause a sea change in the regional economy with the backward and forward linkages. Yet this was not to be, and far from giving an fillip to industrialisation in the region, it remained a supplier of raw materials to meet the industrial needs of states outside of this region. However in 1995 Rs. 1000 crores were earmarked for expansion of the BRPL<sup>41</sup> and by the end of the Ninth Plan, when this is slated for completion BRPL's contributions should increase. The product output of BRPL is diverse. Its refinery output includes naptha, kerosene, high speed diesel (HSD), light diesel oil, raw petroleum coke and calcinated petroleum coke, LPG and aviation turbine fuel (ATF) while its petrochemical products include aromatics, xylene, DMT, methanol and PSF among others. Products/ downstream industries based on the petrochemical products include<sup>42</sup> quick drying solvents and thinner for paints (from C-7 aromatics); paints, dye intermediates, pesticides and lacquer (from ortho xylene); industrial solvents, pesticides, paints, insulating varnishes (from C-9 aromatics); polyester film for X-rays, photo film, magnetic tapes, metallic yarn etc., polyester chips, polyester filament yarn and polyester resins (from DMT which is of extremely high quality and BRPL's DMT output of

41,539 tonnes in 1994-95 is of internationally accepted standards); and food preservatives, benzoic acid, sodium benzoate, perfumes and medicinal use (from methyle benzoate).

PSF downstream industries include a variety of cotton, ramie and wool based industries and artificial fibre related industries such as viscose, rayon, acrylic, nylon etc. In 1994-95 PSF production was to the tune of 22,250 tonnes. Far from establishing linkages the BRPL is currently running short of minimum amounts of crude

Given the failure of downstream industries developing the optimism on the Assam Gas Cracker Project at Tengakhat near Dibrugarh (which has the prospects of bringing about substantial benefits to the regional economy) must be restrained. However the AGCL which includes a gas separation plant, a mother cracker plant and associated downstream units including production of LLDPE, HDPE, EO, EG, PFO etc. holds much promise for multiplier effects on the regional economy getting generated.<sup>43</sup> Interestingly while the BRPL products call for intermediate medium scale units with substantial investment before utilisation in the SSI sector, most of the AGCL of Reliance Industries entails directly usable products for numerous downstream industries in the SSI sector.<sup>44</sup> However the fact remains that not much has been achieved in terms of downstream industries, although attention on the prospects of developing such SSI units had been focussed at least a decade earlier.<sup>45</sup>

#### 7.4 Petroleum, Natural Gas and Export Base Theory

How did the Petroleum sector perform in the context of the export base theory ? Certainly as petroleum and natural gas production increased and as the 'export' of these resources to the rest of the country in processed or semi-processed form increased no significant benefits to the regional economy accrued. The only tangible benefits were the enhanced royalty on crude oil that accrued to the state government. As far as natural gas was concerned the utilisation of this scarce resource was apparently quite wasteful, at least by comparison with Gujarat; whereas in terms of petroleum, the region was equipped only to serve as a supplier of crude to Barauni, with only a smaller share being refined within the state. In fact, the pattern of exploitation would appear to fit into the 'core-periphery' or 'internal colony' framework.<sup>46</sup> Wherein the resource extraction in the periphery is generated to meeting the needs of the core. Certainly extra economic criteria were applied in location of the refinery at Barauni and not at Silghat, near Nowgoan, in Assam.

Going by the export base framework, the development of the basic sector or the export sector would have had a "residential effect" leading to diversification and industrial development in the region. However this did not take place and the export route to development in case of the petroleum and natural gas sector remained a non starter.

## 7.5 The Tea Industry

Within the north eastern region, one state-Assam - is the tea country of India. Other states like Tripura, Arunachal Pradesh and to an extent Nagaland and Meghalaya have only in recent years made some beginning in the tea plantation sector, yet it is the Brahmaputra valley that has been historically the most important and currently the tea industry in this region is synonymous with Assam tea. No where else is the economy so closely linked with the tea plantation sector as in Assam, which is also the second largest tea producing area in the world producing in 1995, 399 million Kgs. in 2.31 lakh hectares of land over 844 tea estates.

When India became independent in 1947, Assam inherited as a legacy of British rule a firmly established tea industry, with dimensions second to none in the world. The industry was linked to the external markets of Calcutta and London through which Assam tea made its way to 'world markets'. The place of tea in the economy was undisputable and accounted for over 50 per cent of India's tea produce in 1951 and contributed substantially to the national exchequer in the form of foreign exchange earnings, then as also now. The area under plantations and production slowly increased over the years (Table 7.7) and presently cover 203,363 hectares spread over 848 estates producing 396.6 million kilos of tea (1991) which is about 55 percent of India's tea produce, and accounts for 65 percent of India's tea exports. The tea industry is one of the two major

industries around which the economy of Assam hinges, yet the industry is frequently accused of operating in a vacuum without having any significant linkages established. The early history of the industry being conditioned by colonial masters, the linkages of the industry with the regional economy were stunted and the prime motive of the owners of the plantation sector were to generate profits which were sent home to England. One could not expect the mercantilists to show altruistic motives in the bygone colonial era. 1947 changed such a state of affairs and it was expected that the tea industry of Assam in free India would give a propulsive boost to the regional economy and that the export oriented nature of the tea industry would afford overall regional economic growth. The following action analyses the post colonial trends of Assam's tea industry in the light of the export base theory.

#### 7.5.1. Post Colonial Developments

Assam's tea produce would be valued at roughly Rs. 2100 crores. The tea industry employs 585,000 workers, of which 441,000 were resident labourers on the tea estates.

Table 7.7  
Area Under Tea and Tea Production 1951-1991

District	Area ('000 ha.)					Production (million Kgs)				
	1951	1961	1971	1981	1991	1951	1961	1971	1981	1991
Darrang	25	26	31	35	40	27	31	41	58	81
Goalpara	1.4	1.6	2.0	2.5	3.1	1.6	1.7	2.4	3.5	5.4
Kamrup	1.8	2.0	2.7	3.1	3.6	1.1	1.6	2.5	3.5	4.7
Dibrugarh	47	50	57	60	68	56	73	92	123	142
Lakhimpur*				3.6	4.2				6.7	8.4
Nowgong	5.0	5.5	6.3	6.8	7.8	3.6	5.6	7.4	8.6	11.8
Sibsagar#	44	46	52	59	70	4	49	55	71	101
Cachar	30	30	31	32	35	20	20	23	29	40
Assam	156	162	182	203	233	150	182	224	305	397
India	317	331	357	384	420	285	354	435	560	704

\* Data for Lakhimpur are included with Dibrugarh upto 1971

# Data of Sibesar includes Karbi Anglong & North Cachar Hills

Source : Tea Statistics 1991-92, Tea Board, India.

Along with increases recorded in area and production there have been improvements in productivity, although not upto desired levels, from 966 Kgs/ha in 1951 to 1700 kgs/ha in 1991 compared to All India changes from 901 Kgs/ha in 1951 to 1794 kgs/ha in 1991, and current yields of 2039 Kgs/ha in Kenya, 2215 kgs in Malawi and 1086 kgs in Sri Lanka. There are of course regional variations of productivity and leaving aside the sick gardens of Cachar the rest of Assam has a higher productivity at 1803 kgs/ha with the upper Assam districts, the 'tea country' of Assam' namely Dibrugarh' Darrang and Lakhimpur having higher yields than the state average.

Yet all was not well for the sons of the soil, who apart from holding petty managerial posts had little else. The five lakh odd labour force was strictly speaking not composed of

'indigenous Assamese', although this section-the tea labour segment and ex-tea labour segment - has easily assimilated itself with Assamese society and culture, ownership of tea estates remained largely though not totally elusive to the Assamese, as did the middle and upper level managerial posts. To cap it all, all the tea was being marketed outside the state, a state of affairs that continued until the Gauhati Tea Auction Centre (GTAC) was opened in 1970. The GTAC, now in its 26th year is the largest CTC tea auction centre in the world, and in terms of all teas it is the second largest after the Colombo Tea Auction Centre; growing in importance since its inception when it handled 2.75 million kgs of tea in 1970 to its handling 137.71 million kgs in 1994 valued at roughly Rs. 600 crores. Along with the GTAC there developed warehousing, marketing, banking institutions, export finance and transport services and brokerage services resulting in positively affecting the local economy. However the sons of the soil felt these were not sufficient in themselves ; while under colonial rule it was understandable that the British motives were guided by profit maximisation, and not altruistic considerations for Assam ~~was~~ part of the Indian colony of Great Britain, yet it was expected that the tea industry of free India would provide a new succor to the Assamese and show concern and invest in welfare and developmental activities in the state. Yet the situation in post independent times did not change radically from colonial times and although a number of gardens changed ownership from British to large Indian enterprises, for the Assamese this did not bring in any changes. As far as ownership

was concerned some small gardens were bought by Assamese planters, but these were in the 10-20 hectare size and obviously too small to cause any changes for the economy. Regarding employment at the middle managerial level, non-Assamese capitalists preferred to bring in staff from outside the state, a trend noted by the Fifth Report of the Employment Review Committee (1976), set up by the Assam Assembly, that "after change over to Indian management, almost all the posts in the managerial cadre (including assistant managers) were filled up by persons from outside the state of Assam without any open advertisement or without notifying the employment exchange"<sup>47</sup>. The fact that although Assam produced the lion's share of India's tea, yet did not have an auction centre did not help matters. The state was thus losing out on its rightful share of revenue from sales-tax, and in the late seventies while Assam earned Rs. 22 crores, West Bengal earned Rs.42 crores as revenue from sales-tax on tea grown in Assam but sold in Calcutta<sup>48</sup>; similarly with the headquarters of the Tea Board located at Calcutta employment it generated did not benefit Assam, as with the case of the private companies and multinationals located at Calcutta. The Tea Board is the highest authority on the tea industry and decides on approval of grants, funds and labour welfare projects, and it was felt that since the gardens it governed were located mainly in Assam, the Board's head office should be located in Assam as well.

The issue having all the headquarters of private companies located at Calcutta has several ramifications. It does not benefit the tea growing area in at least the following ways. First out of the tax paid by tea companies the tax deduction at source (TDS) is shared by the centre and the state in which it has been collected.<sup>49</sup> Since most tea companies have their headquarters at Calcutta, the TDS is paid at West Bengal and the state where all the tea estates are located end up not receiving any share of this revenue. TDS returns filed in another state, be it West Bengal or Maharashtra, is under the existing tax rules of the country, shared between New Delhi and Calcutta. The West Bengal state then naturally benefits from such sharing while it is the tea growing state of Assam that suffers in not receiving any share of the revenue/TDS returns.<sup>50</sup> Clearly the large private concerns must have some basic attractions for wanting to file such returns elsewhere rather than in areas from which such companies derive their sustenance from. The oft cited reason is that their registered offices/head offices being located at Calcutta they file their returns there. However this also considers the convenient fact that filing returns elsewhere by corporate houses also means that intensive local scrutiny is avoided, since offices at Calcutta are happy enough to receive TDS returns there and are willing to not look too closely at account books.

Given the circumstances prevailing in which Assam loses out on income tax from TDS of tea industries, it is clear that

the state must be losing substantial money as taxes. One estimate has put this loss, over the past two decades at ~~costs~~ <sup>Rs</sup> of Rs. 18 to 20 per kg. of tea. This is <sup>per</sup> government inspection records - and Assam's production Rs. 15,000 crores.<sup>51</sup> This estimate holds that given production costs of Rs 18 to 20 per Kg of tea- this is per government inspection records - and Assam's production of 40 crore kgs. of tea annually at an average price of Rs. 50/kg. Rs. 2000 crore is realised after sales and roughly Rs. 1000 crore of this would be profits, this being the approximate difference between sale price and production cost along with a margin for labour wages etc. Considering rate of income tax by the Government at an average of 55 percent, although this varies from year to year, a sum of Rs. 550 crore along with a 10 percent surcharge would give Rs. 605 crore as income tax, from which 10 percent accrues to the centre and 90 percent or Rs. 545 crores accrues to the state government. In addition is agricultural income tax which is 40 per cent of the income tax amount; this amounts to Rs. 220 crore and the total to Rs. 765 crores, in sharp contrast to Rs. 35 crore when <sup>it</sup> Assam derives as agricultural income tax. The difference of Rs. 730 crores annually would amount to Rs. 14,600 crores in the past 20 years, Bagchi asserts.

Even if the above estimate is slightly exaggerated the fact remains that West Bengal earns Rs. 87 crore as annual income taxes on an income of Rs. 160 crores shown by tea gardens of Assam.<sup>52</sup> By this measure alone Assam would have lost, an amount

of Rs. 1740 as income tax over the last 20 years, which accrues to West Bengal.

Given the track record of private companies manipulating their account books and the illegal encroachments on government lands which are mostly used for growing tea, the fact that such meagre profits could be because of doctored accounts, remains.

Leaving aside the specifics, two facts remain, first, the tea country of India, Assam, gets a meagre share of taxes (mainly in the form of agricultural tax) at Rs. 35 crore annually from the tea industry. At any case this does not exceed more than about Rs. 50 crore annually.<sup>53</sup> Second, West Bengal earns more than double that amount at Rs. 87 crore solely on the basis of the registered offices being located at Calcutta.

Given the above, Assam appears to derive only marginal benefits from the tea industry, whereas a state like West Bengal benefits more than Assam. The tea industry, it would appear, appears to be exploiting the historical and geographical advantages that Assam enjoys, and the colonial pattern of resource extraction does not appear to have changed significantly and corporate houses continue to siphon out huge profits, ploughing back trivia. While West Bengal with its historical advantages derives more income from profits from tea industry than Assam, where the plantations lie. Such a situation is not

peculiar to tea industry or Assam alone and in Karnataka as well, some major corporations with a substantial presence prefer filing returns outside the state, whereby almost 85 percent of the income tax collected as TDS that would otherwise accrue to the Karnataka government is lost, and another state receives that amount.<sup>54</sup> Recently the Income Tax Department in Bangalore has asked all major corporate houses to file their returns in the state.<sup>55</sup> These include concerns such as Brooke Bond Lipton, Titan Industries and Escorts among others.

Secondly, having head offices in states outside Assam means that junior and middle level employment facilities are lost to the sons of the soil. While it is fact that as a private enterprise in order to survive, the tea companies should be free to recruit only the best in the market, it is an open secret that until very recently, recruitment's to the junior and middle level managerial posts were made on an 'uncles and nephews'<sup>56</sup> principle mostly in their head offices. A few of the elite of the Assamese that were in the tea business pushed in kith and kin, but for the middle class 'sons of the soil' employment in the tea gardens was out of bounds, with economically weak middle class candidates unable to make frequent trips to such metros, losing out.

The stance of the private corporations are not unfounded when they hold that states like Assam do not possess even the most bare financial, and physical infrastructural necessities to allow corporate head offices to function. Skilled

labour is also said to be missing. Such statements are true, though not necessarily correct. True, the transport and communications sector in Assam is woefully inadequate and the state is light years away from cellular telephones and similar advantages available in metropolises. Yet there is no denying the fact that the state produces the raw material that the corporates profitably market, and some benefits must accrue to Assam, sooner or later.

*reword  
rephrase*

True, that Calcutta has had historical advantages, and that these historical advantages have continued. What is ignored by such logic is that historical locational advantages, have to be considered in terms of changing politico-economic milieu.

While there existed some misgivings about the role of the tea industry there developed in Assam between 1979-85 an 'agitation' against illegal immigrants from Bangladesh, this phase of heightened awareness of Assam's place in the country also saw the development of a feeling of neglect by New Delhi in terms of resource utilisation, investment and developmental levels attained. The belief that Delhi was treating Assam as an internal colony gained currency, and that the tea, oil and forest resources of the state were being exploited without any corresponding benefits having accrued to Assam. It was felt that the tea industry puts back a small chunk into the state's economy. The continuing colonial mode of extraction syndrome does not seem ~~totally~~ unfounded. First, inspite of being the prime

producer there existed until 1970 no auction centre in Assam, which meant that not only revenue from sales taxes were being lost on, and that another state was gaining this by simply auctioning it, but also that the producing state lost out on the employment opportunities directly from such a centre and indirectly from associated jobs in the brokerage, warehousing and transport sectors which are linked with marketing of tea. For the growers having to market their produce at Calcutta or Siliguri, had some advantages but also the disadvantage of having to bear the transport cost and the West Bengal entry tax. Second, the industry earns handsome profits but ploughs back marginal capital into the state. In 1989 the industry earned about Rs. 1386.76 crores, yet "the profits earned from the tea industry are not reinvested in the state, except giving employment to certain categories of workers and labourers" (Employment Review Committee, 1991, Assam Assembly, Guwahati). Third, in the middle managerial level few sons of the soil are preferred, in 1989 out of a survey of 241 tea gardens it was found that only 35 percent of managerial, administrative staff and engineers were Assamese, and the larger chunk from outside the state.<sup>57</sup> Fourth, the fact that there was not a single whole time director from Assam on the board of directors of any of the large tea companies<sup>58</sup> in which policy decisions relating to employment, investment and diversification are taken, meant that the interests of the local economy could get relegated to unimportance did not help matters. Fifth, tea companies have made little effort and few attempts to aid development of downstream industries in the state associated

with tea such as tea chests, bamboo baskets, fertilizers and fungicides, weedicides, tea machinery, tools and implements etc. Most tea houses with head offices at Calcutta prefer to get items supplied by Calcutta-based firms, whereas most items barring tea machinery is locally available. Local entrepreneurs and supply agents have not been benefited due to such a 'policy'.

Given such a scenario grievances against large companies owning tea gardens along with the perceived neglect and exploitation of Assam along the lines of a colony in the sectors of tea, oil and forests coupled with the tardy implementation of the Assam Accord of 1985 cumulatively led to genesis of the "United Liberation Front of Assam" (ULFA) a militant organisation aimed at avenging the perceived neglect.<sup>59</sup> The tea estates soon became targets of extortion, ransom and kidnappings and many tea concerns even today pay undisclosed amounts as 'protection money'. At least one direct outcome has been that an unwritten policy of rescuing local personnel in the middle level managerial posts such as labour welfare officers, assistant managers, factory assistants and engineering staff appears to be emerging.

The tea industry in Assam is not unique in making profits from plantations, and even elsewhere in other parts of the country it is "in the area of disclosure of actual costs that the industry is the most chary".<sup>60</sup> In fact the masters of the industry often point out that the profits are extremely marginal.

A director of a leading private corporate house, at a seminar organised by the ABITA analysing the annual accounts of 13 major tea companies between 1985 to 1991<sup>61</sup>, showed that during 1990-91 with a production of 338 million kgs. in Assam, sold at Rs. 44/- per kg. contributed to a turnover of Rs. 1700 crores out of which profits after tax were approximately RS. 170 crores, calculated at the annual average rate of Rs. 4.44 profit per Kg. after tax; further pointing out that :

- (i) profitability of the industry even before tax liability was not very high.
- (ii) the tax rate for the tea industry was one of the highest vis-a-vis other industries.
- (iii) tea companies invested "almost all" their profits in capital expenditure and had not diverted their profits outside the tea industry.

Unfortunately, there are no reliable statistics on costs of production of tea in different states or on profit or financial conditions of the tea industry.<sup>62</sup> Executives of tea industry are generally better paid in cash and kind than more qualified personnel with the same period of experience in other industries that are more profitable. If tea companies are really less profitable than other industries, then it is only reasonable that its executives draw lesser salaries and perks compared to other industries, however this is not so.<sup>63</sup>

The fact that average under tea plantation has continued to increase and that tea concerns continue to operate in Assam, extortions and kidnapings notwithstanding, appears

indicative of the continuing profit generations in spite of paying out not insubstantial sums as 'protection money'. As an industry, tea continues to be one of the top profit earning industries in India (Table 7.8) among 14 groups of industries on the basis of a few indicators clearly if tea industries are doing well as a whole, the estates in Assam cannot be doing too badly, since they account for a substantial chunk of the whole tea entity of India.

In a series of 17 write ups in a regional daily one writer has shown how tea industries located in Assam have amassed huge profits.<sup>64</sup> Comparing the production costs and profits of the nationalized tea gardens and privately owned gardens for 1976 (Table 7.8) Bagchi shows that the comparative profits are higher for the former while manipulated accounts of the private concerns show only marginal profits.

Table 7.8  
Profits of Some Tea Companies in Assam : 1976

Company	Total Production (lakh Kgs)	Production per Hectare (Kgs)	Average Price/Kg (Rs.)	Gross Profits (%)	Gross Profit (Rs. Crore)
Assam Tea Corporation	42.49	1269	15.88	52.00	3.48
Namdang Tea Company	25.76	1991	13.20	40.00	1.35
Jokai India	78.89	2096	14.11	32.55	3.62
Duncan Agro Industries	154.62	1856	10.60	29.00	4.69
Tata Finley	389.50	1782	13.05	21.55	12.24

Source : Bagchi, S., The Sentinel, 20 Nov. 1995.

Table 7.9  
Profits of Industrial Groups in India

Industry Group	No. of Cos.	1		2		3	
		89-90	90-91	89-90	90-91	89-90	90-91
Tea Plantations	21	22.7	23.9	21.4	23.6	21.6	22.4
Sugar	11	11.0	7.0	11.6	9.1	14.5	4.9
Tobacco	5	17.3	18.3	15.5	15.0	21.2	29.2
Cotton Textiles	37	8.3	10.6	10.3	13.7	2.8	11.1
Silk & Rayon Textiles	22	11.7	12.3	9.4	10.2	13.1	18.8
Engineering	199	11.7	11.6	10.3	10.3	14.6	14.1
Chemicals	137	13.2	12.8	13.2	13.3	16.3	16.7
Cement	19	5.3	14.2	6.4	14.7	*	25.8
Rubber & Rubber Products	15	9.7	9.5	8.3	8.8	9.4	8.6
Paper & Paper Products	20	11.6	12.1	11.4	13.0	17.5	13.9
Construction	10	6.1	5.9	13.2	18.5	8.3	13.2
Electricity Gen. & Supply	8	9.8	9.1	13.7	13.4	13.9	11.3
Trading	14	8.8	10.3	5.2	5.8	17.9	19.8
Shipping	8	8.8	8.4	21.6	18.0	26.7	17.4
Total (including Others)	645	10.9	11.7	11.5	12.5	12.9	14.9

N.B. : 1 - Gross Profits as percentage of Total Net Assets  
 2 - Gross Profits as percentage of Sales, Net of Rebates, Discounts, Excise Duty and Cess.  
 3 - Profits after Tax as percentage of Net Worth  
 Source : Finance of Large Public Limited Companies 1991-92, Reserve Bank of India; as cited in Tea Statistics - 1991-92.

The profits made by the Assam Tea Corporations, which then, as now, comprise of mostly sick tea gardens located

generally in Cachar district, compare more favourably than any of the privately owned gardens. This is in spite of per hectare productivity of the ATC gardens being substantially lower at 1269 kgs. per hectare compared to 1782 kgs. per hectare of Tata Firley gardens and the other companies at 1856 kgs. per hectare, 1991 kgs. per hectare and 2069 kgs. per hectare.

Bagchi notes that only jugglery of book entries of the private companies could have made such a situation possible. The lower profits of the better managed more productive private estates could be due to irregularities of statistics furnished. Resorting to distortion of facts and figures by private companies is not inconceivable since such agencies often engage in similar practices. For example tea estates are often found to be growing tea on encroached government lands. This not only deprives the government of land revenue (since encroachments are undeclared and illegal) and also various taxes such as sales tax, income tax and agricultural income tax due on such produce, but also directly benefits the tea concerns since the quantum of tea produced on such lands are not entered in their account books.<sup>65</sup> Often the actual area under tea was far in excess of the area shown on paper, as in the case of the Baishahabi T.E. where one estimate shows that a value of tea produced to the tune of Rs. 1,71,85,000 per year is derived from the illegally encroached lands of 137.48 hectares, amounting to Rs. 34 crores over a period of 20 years.<sup>66</sup> This estimate, however, could be on the higher side since productivity per hectare at the rate of 2500

kgs has been considered. If productivity at a rate of 1700 kgs/ha is considered - since this was the average productivity of all tea gardens in Assam in 1991 - then at the rate of Rs. 50/- value per Kg of tea over the illegal encroachment on 137.48 hectares annual income amounts to Rs. 11,685,800 per year. Since the Land Ceiling Act 1976 came in effect it is two decades now, and if the illegal income of the Baishahabi T.E. is considered over the past 20 years, a figure of Rs. 233,716,000 or Rs. 23 crores is arrived at.

This may not seem to be too high. Yet the extra income earned relates to one estate only, and when the illegal encroachments of 220 inspected estates are considered the magnitude of encroachment inflates to the tune of 14,927 bighas.<sup>67</sup>

Bagchi<sup>68</sup> basing his estimate for the entire 850 tea gardens on the 220 inspected gardens arrives at an estimate of 10,000 hectares of encroached lands at the rate of Rs. 50 per kg of processed tea and 2500 kgs/ha productivity, to value tea at Rs. 2500 crores over a 20 year period. Adding cost of land, revenue, other taxes and duties, this inflates to Rs. 3000 crore for all estates of Assam.

If Bagchi's estimate is scaled down slightly, taking 1700 kgs/ha as productivity, in place of Rs. 2500 crores, a figure of Rs. 1700 crores is derived and along with other dues, cess and taxes this would amount to Rs. 2200 crores.

The larger private concerns have substantial such encroachments and the Williamson Magor group has been estimated to have made profits surreptitiously to the tune of Rs. 170 crores over the past two decades.<sup>69</sup> This estimate is based on the encroached lands of 227 hectares<sup>70</sup> in one-third of the 43 tea gardens owned by Williamson Magor and projected for the remaining estates. Naturally these estimates are based on the present value of tea at Rs. 50 per kg. However, in value terms this is justifiable since say in 1976, although tea per kg cost less, in value terms it would have been Rs. 50 per kg at the least.

Undoubtedly, private enterprise has to have profit maximization as the primary motive, nonetheless the industry's sole objective should not be such and must also look to the welfare<sup>71</sup> and interests of the land from which it operates, with some proportion of profits being re-invested in the state to boost the local economy. Indeed the tea industry's "future plans ought to be integrated with the general process of development in the state, without curbing its dynamism, for the sake of balanced growth" (Gohain, 1992a); conversely the state government must also ensure that the security of personnel manning the industry among others is ensured.

In the sesquicentennial history of the tea industry, established by a colonial power that caused much harm, yet had some positive impacts and also opened up the territory with the spread of modern transport - and bequeathed it to large Indian

capitalists, one common theme has been the extraction of profits outside the producing hinterland even during post colonial times. Tea continues to be the largest organised sector industry in Assam and the north eastern region. For a variety of reasons the industry has failed to live up to the expectations of the people and the regional economy does not substantially benefit from the tea sector. In terms of income from taxes a neighbouring state like West Bengal benefits more than Assam; in terms of middle level managerial posts are well the sons-of-the soil do not find much employment and in some respects the industry has remained an isolated enclave of prosperity with little links with the surrounding regional economy. Even for local suppliers the tea concerns are off-limits<sup>72</sup> and from the labour section of the tea industry as well, serious discrepancies between their dues and what benefits actually accrue remain and the propulsive growth and residentiary effect that was to have been generated by the region's premier industry has not yet been forthcoming inspite of the colonial yoke have been shrugged off nearly half a century ago.

#### 7.6 Tea Industry and the Export Base Theory.

Modify

The plantation sector developed as the foremost export sector as early as the mid-nineteenth century (chapter IV). Its position of eminence has continued well into the present decade of this century. While in pre-independence times the colonial owners of the plantation sector were concerned with profit maximization and hence any residentiary effect was not

forthcoming, trends of development of the tea industry in the post colonial times have not been very encouraging for the region's economy.

Until 1970 the tea was being extracted from the region and profits accruing elsewhere. Linkage effects of a large tea auction centre were not available to the tea growing region. However, this changed with the establishment of the GTAC, which soon developed into the world premier/largest CTC auction centre. With it developed some linkage effects : warehousing, transport, financial services and limited direct employment.

Yet till today, the tea companies have had few multiplier effects on the regional economy. With their head offices at Calcutta, much of the income tax including the TDS accrue to West Bengal. Similarly most tea companies have the bulk of their estates in Assam while their offices continue to be located at Calcutta, continuing the historical traditions. As a result the employment of Assam's 'sons of the soil' suffers, while Calcutta based firms get supply contracts.

Tea companies make large profits which are repatriated outside the north eastern region. Beyond the initial investments, few growth effects have been set off and these companies create few spin-offs, few local linkages and their marginal effects are actuated in the form of the wages they pay to wage labourers and a handful of middle level managerial and clerical staff.

As to whether tea companies make big profits or not has two points of view. One that significant profits are made, and the other that significant profits accrue. Yet it would appear from the foregoing analysis - that the latter view would be the real position. Linkages have not resulted and the region has not benefited from tea industry to the extent the export base theory would have it. The region has remained on the Indian periphery and in terms of tea industry the colonial pattern of extraction of primary resources and benefits to the core, appear to have continued.

However, there is another aspect to such a philosophy. What are the extents to which the tea enterprises can expand within the tea sector and can the industry diversify into other investment alternatives ? These are considered in the last section of this chapter.

## FORESTS

### 7.7 Forests

The typical monsoonal climate of the NER coupled with the hilly and mountainous topography have allowed the region to boast of a luxuriant vegetation cover that has survived to its present extent, in no small measure, due to the relatively late contact of the region with capitalist machinations of the British and also due to the poor means of transport and communication available at that time to the colonial powers. Nevertheless, the

north eastern region's forests were one of the worst exploited by the British during the expansion of the railway network in the country.

Associated with the tea industry there were rapid improvements in the sector of transport and communication particularly in the colonial period.<sup>73</sup> Post-independence years have seen improvements in Assam to an extent; in the other states possibly to a greater extent and although the transport linkages within the NER and between it and the rest of India are still not comparable with the existing facilities elsewhere in the country, from the point of view of the forestry sector, enough transport linkages exist and if one sector of the NER has not been lagging behind in exploiting nature's bounty it is surely the forest sector.

The modes of transport involved in the movements of forest products are roads, railways and waterways. Considering the availability of secondary data movement of forest produce under roads and that by railways and waterways are considered separately.

#### 7.8. Road Transportation of Forest Products

The volume of traffic in forest produce by roads is of staggering proportions. Trucks laden with timber and non-timber forest produce (NTFP) ply from the remote corners of the region to distant destinations like New Delhi and Bombay and to states

like Rajasthan, Punjab, Andhra Pradesh as well neighbouring states like Bihar and West Bengal. Since Assam is the entry and the exit through which all vehicles must pass, the data on movement of vehicles passing through Assam provides a fairly accurate picture on the movement of forest produce from the NER. The two check-gates through which all vehicular movement to and from the rest of the country must pass are Buxirhat and Srirampur in Assam. Of the two the Srirampur check gate handles much more traffic (Table 7.10).

*Check with P-218 Change if necessary or explain.*

*Is it ave. volume? Year?*

Table 7.10  
Volume of Vehicular Traffic at Entry/Exit Points of NER by Road  
(Trucks in Number)

Week	Boxirhat			Srirampur		
	Outgoing	Incoming	Total	Outgoing	Incoming	Total
1/4-7/4	2647	1931	4578	4749	4729	9478
8/4-14/4	2394	1893	4287	4815	4412	9227
15/4-21/4	2493	2142	4635	5061	4852	9913
22/4-30/4	3216	2886	6102	6629	6317	12946
Total	10750	8852	19602	21254	20310	41564

Source : 1) Office of the Superintendent of Taxes, Boxirhat, Assam  
 2) Office of the Superintendent of Taxes, Srirampur, Assam  
*Year 1*  
*Check with Table 7.11 - Figs. vary widely.*

In a single month as many as 61,166 trucks carrying almost evenly commodity under the sun ply to and from the NER. Annually this would be in the range of 7.3 lakh trucks plying to and from the NER. The Durma checkpost at Srirampur in Kokrajhar district of Assam handled 426,272 trucks in 1993-94 (Table 7.11) showing a steady increase over the past few years.

Table 7.11  
Volume of Vehicular Movement at Srirampur, Durma Check Post,  
1989-90 to 1993-94

(No. of Trucks)

Year	Incoming Vehicles	Outgoing Vehicles	Total
1989-90	163007	177580	340587
1990-91	213783	238883	452666
1991-92	214887	226258	441145
1992-93	202639	214952	417591
1993-94	196283	229989	426272

Source : Superintendent of taxes, Srirampur (vide Memo No. (nil) dated Srirampur, the 9/5/1994).

From the large volume of trucks annually plying to and from the region the exact proportion of trucks transporting forest products is difficult to estimate. However, from one published source, the Report on Movement of Goods Traffic By Road in Assam (1987-88) published by the Survey and Planning Cell of the Assam Government's Transport Department (1992) which conducts a survey on traffic flow and volume carried by trucks is available. This agency excludes defence vehicles and public passenger transport and concentrates solely on goods carrying trucks. The duration of the survey is 3 days (24 hours a day) carried out during November 1987 and April 1988. Although the agency conducted surveys of 34 checkgates in Assam, for the purpose of the present analysis, i.e. to gauge the volume of forest products flowing into/out from the NER, information on interstate traffic from 16 of these checkgates including Srirampur and Boxirhat is relevant. Moreover out of the 19 commodity heads under which the study is organised, 2 heads/groups are relevant to the forest sector; these are "wood

*check with page 217*

and wood products", and "forest produce". For the present analysis the former is directly applicable, while "forest produce" not so useful since it includes bambod, cane, firewood, other forest products and boulders without specifying the quantum of each individual item, and it is imprudent to try guessing how much boulders or bamboo constitute in the total 'forest produce' head.

As far as "wood and wood products" is concerned, the two rounds of the survey, carried out in November 1987 and April 1988, show a greater volume of movement during November (Table 7.12). This can possibly be explained by a sort of peaking in the transportation of such products after a decline in collection from often relatively inaccessible areas, during the monsoon months.

Table 7.12  
Regional Import-Export of Wood and Wood Products From  
North East Region

(Tonnes)

Time of Survey	Incoming	Outgoing	Import-Export Differential
November 1987	153	2732	2579
April 1988	91	1867	1776
Total	244	4599	4355

Source : Report on Movement of Goods Traffic by Road in Assam 1987-88, Transport Survey & Planning Cell Transport Department, Dispur, Assam, 1992.

Considering the survey periods of November 1987 and April 1988 together, a net differential of 4,355 tonnes of wood

and wood products between those flowing into the region and those flowing out from the region emerges. A volume of 4355 tonnes of wood and wood products is not an insignificant quantity if the short span of 6 days is considered. This would mean that <sup>N/</sup> a 30 day period a volume of some 21,775 tonnes of this valuable diminishing resource can be projected as flowing out from the NER. Over a year this translates into a substantial quantum of some 264,927.95 or 264,928 tonnes. It is not possible to precisely estimate the value of such an outflow since diverse species ranging from teak, and sal to bossom, hollock, tita champa and pines are involved and also because while at times it is not logs that are only sent out, but also veneer, mixed wood, sawn timber, firewood and 'sawn off cuttings' that are exported from the region.

mention that  
the source  
is unpublished  
and is the only  
indicative  
source available

Is the  
outgoing  
value  
constant  
over the  
month/year

The projected volume of import-export differential for a year, 264,928 tonnes of wood and wood products needs clarification on two counts. First, that it is based on surveys carried out in 1987-88 and the present rate of outflow could be much different; one would expect that current trends would be on the higher side of this mark considering the ever-increasing demand for timber and timber products.

Second, a mark of 264,928 tonnes, based on a 6 day figure of 4355 tonnes represents a projection of the legal dimension of trade in timber and associated products, and does not consider the illegal dimension to timber trade. Nonetheless

the fact remains that illegal trade in timber products is undesirable and a substantial volume must be finding its way across checkgates and forest beat offices to the national markets. This will be considered shortly, but before that it would be useful to consider the current volume of timber trade based on the projection of 1987-88.

Since the Srirampur check gate is the most important check gate in the region information from the Range Officer (Forests) Srirampur has been utilised. This authority maintains records of the amount of timber and forest produce going across the outpost. The following table shows the volume of such regional outflow that occurred during a week's time during April 1995. It need to be noted that such information should have been collected at several points of time/at different times of the year, and this would have lent greater authenticity and accuracy to any projections, however the fact is that such information is not easily forthcoming with the concerned authorities reluctant to provide the same. Hence only unpublished statistics relating to a 7 day period from 18 April to 24 April 1995 has been used in this study.

The information collected necessitated minor estimation. Generally tonnage hauled by each truck is recorded in cubic metres. In some cases however, certain 'lapses' if they may be thus termed were found in the records maintained, in the sense that against some trucks instead of units in cubic metres the

entry is simply stated as '1 truck', or as '225 pieces firewood' or as '282 pieces pine/hollock'. To overcome such entries, the average volume of timber on a particular day is calculated and this average per truck is inserted in place of such ambiguous entries. The number of such entries is quite small, in fact against 26 trucks (out of the total number of 365 trucks) such aggregates had to be generated on the basis of 339 accurate entries.

Summarising the following results (Table 7.13) can be derived :

Table 7.13  
Outflow of Timber etc. from NER

Date	No. of Trucks	Volume Carried (cu. m.)	Volume Carried per Trucks cu. m.	Trucks cu. ft.
18.2.95	65	1352.13	20.80	734.66
19.2.95	61	1192.535	19.55	690.51
20.2.95	53	1107.60	20.90	738.19
21.2.95	41	728.86	17.78	627.99
22.2.95	36	751.53	20.88	737.48
23.2.95	42	697.107	16.60	586.31
24.2.95	67	1304.402	19.47	687.68
Total	365	7134.164		
Average	52	1019.17	19.42	686.12

Source : Range Officer, Forests, Srirampur.

Over a 7 day period legal outflow of timber etc. by road from the region was to the tune of 7134.164 cu.m., or 251,978.67 cft.<sup>74</sup> The value of 1 cft is taken as Rs. 250 since this is the minimum price of the better variety timbers. Teak sells at Rs. 300 to Rs. 500 per cft, sal at Rs. 250 upwards as

also simul, hollock, hollong etc. In the timber trade the better varieties are generally preferred for obvious reasons.<sup>75</sup> At Rs. 250 per cft. the value of 251,978.67 cft. works out to be 327.5 crores over a years time, assuming a constant rate of 251978 cft. exported weekly throughout the year. To be on the safe side we may consider a more moderate rate of Rs. 200 per cft., since often less valuable timber species also get exported. A weekly export of 251,978.67 cft. works out to be 13102891 cft. annually or worth Rs. 262 crores. Anything between Rs. 262 to Rs. 327 crores worth of timber is flowing out of the region. This is via the Srirampur gate alone and if the outflow from Boxirhat is also considered, the figure would increase significantly, since during the summer months when floods disrupt roadlinks to Boxirhat, the number of trucks passing through Srirampur as the sole exit point rises to anything between 110 to 120 trucks per day.<sup>76</sup> Even if a mark of 100 trucks is considered the timber outflow along with related products is value terms would be close to double and annual outflow of timber and timber products would be valued in the range of Rs. 400 to 450 crores. This being the legal dimension of timber outflow, without hazarding any projections of the illegal trade in timber and related forest products.

*That*  
The fact such a trend of timber flowing out of the region, has been going on since the past several decades indicates that the region has been losing substantial amounts of timber. In addition are dimensions including :

*is it total loss?*

- (a) the substantial quantities of timber consumed within the region, and
- (b) the illegal trade in timber.

Of these the former would be quite significant since a large number of saw, ply and veneer mills are located within the region. Assam alone accounts for 60 percent of the country's plywood production, has 3 paper mills, 3 timber treatment and seasoning plants, 2 match splint factories and 18 bidi factories with the 76 odd plywood and veneer mills consuming three lakh cubic metres of timber actually<sup>77</sup> (this timber is from Assam's forests and also from Arunachal Pradesh and Meghalaya). During the eighties, Assam produced over 65 percent of the country's plywood and along with the states of Arunachal Pradesh, Meghalaya and Nagaland accounted for over 75 percent of India's plywood output.<sup>78</sup>

Arunachal Pradesh until recently had all its 14 medium scale units based on forest resources.<sup>79</sup> Meghalaya's forests are alleged to have decreased by almost half in the past two decades.<sup>80</sup>

Illegal trade in timber has assumed alarming proportions in recent years particularly with the involvement of certain insurgent outfits in the illegal trade of valuable timber species. The surrendered ULFA members are covertly and overtly engaged in the illicit timber trade<sup>81</sup>, such issues also figure in the state assemblies, to no great avail. On the other hand, one

group of militants - the Bodo Security Force - have launched a 'vendetta' against timber smugglers<sup>82</sup> and frequently dispense quick if harsh, retribution on such apprehend victims.<sup>83</sup> Often even the institutional agencies are involved, and the Assam government suspended 16 Forest Department officials<sup>84</sup> recently, while instances of security forces personnel making profits once in a while<sup>85</sup> also come up. The wildlife sanctuaries are also substantially deforested.<sup>86</sup>

Forest cover depletion is often attributed to the ecologically destructive practise of shifting cultivation, yet this is only a partial truth and a more significant contribution to depletion of forests occurs due to illicit timber smuggling. The truck drivers interviewed claimed that apart from origin/destination of trucks, name of the commodity and details of the vehicle's registration which were accurately ascertained the actual tonnage was mostly always under-~~mined~~<sup>estimated</sup><sup>87</sup> and this is where the profits for the check gate officials lay. Such a practise would be true not only for forest produce but for all commodities passing through important check points.

There can be no estimates as to the magnitude of illicit timber smuggling, yet the fact that illegally<sup>ly</sup>felled logs seized (which form only a small quantum of what actually goes through undetected or wilfully passed) in the last four years in one state alone are quite substantial, should be an indication of how much is smuggled away from the whole region. In Assam the

seized logs (in cubic metres) in the last few years were 18,999 m<sup>3</sup> in 1991-92, 18,000 m<sup>3</sup> in 1992-93, over 17,000 m<sup>3</sup> in 1993-94 and over 16,000 m<sup>3</sup> in 1994-95. The direction of illegal trade is frequently across the international border to Bangladesh. Illegal timber trade compounds the problem of timber extraction from the NER and is serious, considering that the legal dimensions of timber trade are quite substantial. A comparison of the 1987-88 and 1995 estimates, although strictly speaking this is not possible since the two use different units of measurements, is necessary. A conversion into tonnes of the 1995 estimate at the rate of 10 tons per truck - since this weight is the accepted norm by both the Transport Department that undertook the 1987-88 survey, and the taxation check gates at Srirampur - would imply that about 3650 tonnes of timber left the region in 1995 per week compared to the 4355 tonnes of wood and wood products in 1987-88 over a week. However, this considers only the flow from Srirampur, and if the egress from Boxirhat is considered as well, at the rate of 100 trucks in total from the two exit points, an estimate of around 7000 tonnes per week would be arrived at.

Whichever estimate of 1995 is taken, and a scaling down to an average between 3650 tonnes and 7000 tonnes would be very reasonable, at 5325 tonnes per week and this represent a tonnage increase of 970 tonnes over the 1987-88 survey (or a percentage increase of 22 percent) the fact that roads are an extremely important mode of transporting timber remains. The other, equal

important mode of transport, is that of rail, river transport, which is discussed in the following section.

### 7.9 Rail and River Transportation of Forest Products

Since the first railway lines were established in the early decades of this century till the present the development of railways in expanding their network in NE India have come a long way. At present a system of broad gauge and meter gauge lines criss cross the plains areas of the region, concentrating around the Brahmaputra valley with the hilly areas devoid of any network other than a station or two at the periphery of the hills, as is the case with Dimapur in Nagaland or Harmuty near Arunachal Pradesh. The river system in the region is dominated by the Brahmaputra and Barak river along with their tributaries like Dihang, Dibang, Lohit, Subansiri, Kameng, Manas, Kopili, Dhausiri and Buridihing of the Brahmaputra and the Rukni, Singea, Irang and Sonai Makru of the Barak and along with some minor rivers they provide a navigable course for the better part of the year, the Brahmaputra and its tributaries being snow fed as well as rain-fed.

One published source<sup>88</sup> provides comprehensive information relating to seventy-eight commodities which are the principal commodities of inland trade representing the major chunk of merchandise carried by the railways and inland steamers. Some general information on movement of goods by air is also furnished, yet in terms of forest produce this mode of

transportation is naturally not important. The publication gathers information based on the invoices relating to the commodities dispatched from the railway station/steamer station located in a particular trade block to another. The country is divided into 38 trade blocks, the north eastern region has 7 trade blocks coinciding with the 7 states, (while in the case of maritime states like Andhra, Gujarat, Kerala, Tamil Nadu, Maharashtra, Karnataka and West Bengal the number of trade blocks totals 18) and information can be directly used.

In the case of Tripura, trade with other blocks is derived from returns made 1) via the Bangladesh Railway by certain Land Customs Stations on the Tripura-Bangladesh border and 2) via the Patharkandi station on the Assam Tripura border by the North East Frontier Railway. In the case of steamer trade/inland waterways movement of Assam, statistics cover the consignments carried by the Central Inland Water Transport Corporation Ltd., Calcutta (CIWTC). Finally the statistics relate only to quantity and not to value since railway, inland steamer and air invoices indicate quantity only.

#### 7.9.1 Trade in Teakwood

Out of the seventy eight commodities teak and other timber relate to forest produce. The volume of inland trade in teak for the country as a whole was 71,430 tons in 1993-94. This may not be a very large amount, yet the regional contribution of the NER is substantial. Assam alone accounted for 75.99 percent

of the total volume traded within India and along with Nagaland and Tripura accounted for as high as 85.93 percent of the all-India trade (Table 7.14). Moreover the import-export differential is very high and it is clear that the region imports a nominal amount.

**Table 7.14**  
**Import and Export of Teak From the NER : 1993-94**  
(Quintals)

State/NER	Import	Export	Import Export Differential	% All India Import	% All India Export	% All India Differential
Assam	1447	54277	52830	2.03	75.99	73.96
Nagaland	-	6920	6920	-	9.69	9.69
Tripura	-	180	180	-	0.25	0.25
NER	1447	61377	59930	2.03	85.93	83.90
India	71430	71430	-	100.00	100.00	-

Source : Computed from "Inter State Movements/Flows of Goods", DGCIS, 1994.

Assam is the single largest contributing state to national trade in teak. A not insubstantial proportion of the state's teak trees find their way to international markets, since the bulk of Assam teak is headed for ports at Gujarat (Table 7.15). This is the case of Nagaland and Tripura teaks as well.

Table 7.15  
Destination of Teakwood Exports from N.E. States : 1993-94

Importing State/ Trade Bloc	Assam		Nagaland		Tripura	
	Export Volume	% of Total Export	Export Volume	% of Total Export	Export Volume	% of Total Export
1. Bihar	521	0.96				
2. Delhi	580	1.07	300	4.34		
3. Gujarat (Excl. Ports)	5270	9.71	300	4.34		
4. Gujarat Ports <sup>1</sup>	45084	83.06	5370	77.60	180	100.00
5. Haryana			320	4.62		
6. Rajasthan	720	1.33	320	4.62		
7. M.P.	480	0.88				
8. Maharashtra Ports <sup>2</sup>	377	0.69				
9. Punjab	135	0.25				
10. U.P. <sup>3</sup>	1110	2.05				
11. W.B. <sup>3</sup>			310	4.48		
<b>Total</b>	<b>54277</b>	<b>100.00</b>	<b>6920</b>	<b>100.00*</b>	<b>180</b>	

1. : Excluding Kandla  
2. : Excluding Bombay  
3. : Excluding Calcutta

\* Totals up to 99.98

Source : Same as in Table 7.14.

Gujarat ports (excluding Kandla) handle 82.5 percent of the total teak exported from the three states of the NER via rail and river. In fact the Gujarat state as a whole constitutes the destination of 91.5 percent of Assam, Nagaland and Tripura teaks exported. From the foregoing analysis it is clear that during 1993-94.

- (i) the region constituted the main source of teak for the country's inland/internal demands,
- (ii) Assam alone contributed three-fourths of the national intra-state teak trade, and
- (iii) a major chunk of the NER's teak produce finds its way to international markets via the Gujarat ports.

### 7.9.2 Trade in Other Timber

A similar trend is noticeable in trade of 'other timber' and the NER exports a much larger amount than it imports (Table 7.16).

**Table 7.16**  
**Import-Export of Other Timber from the NER : 1993-94**  
(Quintals)

State/NER	Import	Export	Import Export Differential	% All India Import	% All India Export	% All India Differen- tial
Assam	26268	3100012	3073744	0.56	66.53	65.97
Nagaland	-	293833	293833		6.31	6.31
Tripura	-	5572	5572		0.12	0.12
Meghalaya	-	1130	1130		0.02	0.02
NER	26268	3400547	3374279	0.56	72.98	72.42
India	4659790	4659790	-	100.00	100.00	

Source : As in Table 7.14.

Assam alone accounts for 66.5 percent of total inland trade in 'other timber' that took place during 1993-94 and along with Nagaland, Tripura and Meghalaya the NER accounts for almost 73 percent of the national intra-regional trade in that commodity. Import was confined to Assam importing 26,000 quintals which is a small proportion vis-a-vis its exports. None of the other state import any timber from outside the region. However a good amount of inter-state exchange takes place with the region. Thus while Assam imports 26,268 quintals from outside the NER, it also imports 16,910 quintals from Nagaland; similarly Tripura imports 4038 quintals from Assam. Thus the latter exports 3,104,050 quintals and imports 43,178 quintals, while Nagaland

exports 310,743 quintals (table 7.17). Yet intra-NER trade in timber products is not the focus of this section.

Table 7.17  
Import-Export Differential of Other Timber of NER (1993-94)  
(Quintals)

State	Imports	Exports	Import-Export Differential
Assam	43178	3104050	3060872
Meghalaya		1130	1130
Nagaland		310743	310743
Tripura	4038	5572	3374279

Source : As in Table 7.14.

Of greater relevance is the direction of the timber exported from the NER (Table 7.18). From the region as a whole New Delhi alone was the most important market for other timber, bagging 975,802 quintals (28.68 per cent), followed by Gujarat ports which was the destination for 480,520 quintals (14.13 per cent), Haryana with 474,077 quintals (13.94 per cent), Gujarat (excluding ports) with 282,912 quintals (8.31 per cent).

Other important destinations of NE timber exports were Punjab (8.03 per cent), Bihar (8.00 per cent), U.P. (6.77 per cent), Rajasthan (3.35 per cent), Calcutta Port (2.70 per cent) and West Bengal excluding Calcutta (1.93 per cent). The region with the greatest pull then appears as north India around Delhi-Haryana-Punjab-Rajasthan-Gujarat or specifically Delhi-Haryana-Gujarat (including Ports), of which the former accounts for over 76 per cent of the timber outflow while the Delhi-Haryana-Gujarat

Table 7.18  
Destination of Other Timber Exports, 1993-94

(Quintals)

Importing State Trade Bloc	Assam	Nagaland	Tripura	Meghalaya	Total
Andhra	4092			1050	5142
(ex. Ports)	(0.13)			(92.92)	
Bihar	269243	3040			272283
	(8.67)	(1.03)			
Chandigarh	15013				15013
	(0.48)				
Delhi	895356	79234	1212		975802
	(28.84)	(26.97)	(21.75)		
Gujarat	269212	11700	2000		282912
(ex. Ports)	(8.67)	(3.98)	(35.89)		
Gujarat Ports	425607	52553	2360		480520
	(13.71)	(17.88)	(42.35)		
Haryana	447887	26190			474077
	(14.43)	(8.91)			
H.P.	1737				1737
	(0.06)				
Kerala Ports	3231	1720			4951
(ex. Ports)	(0.10)	(0.58)			
Other Kerala Ports	15931				15931
	(0.05)				
M.P.	37965	320			38285
	(1.22)	(0.11)			
Maharashtra	28320				28320
(ex. Ports)	(0.91)				
Bombay Port	8883	640			9523
	(0.29)	(0.22)			
Other Maharashtra Ports	1376				1376
	(0.04)				
Orissa	5100				5100
	(0.16)				
Punjab	259757	14040			273797
	(8.37)	(4.78)			
Rajasthan	79909	34176			114085
	(2.57)	(11.63)			
Tamil Nadu	3143	270			3413
(ex. Ports)	(0.10)	(0.09)			
Madras Ports	10425				10425
	(0.34)				
U.P.	179969	50350		80	230319
	(5.80)	(17.14)		(7.08)	
W.B. (ex. Ports)	45927	19600			65527
	(1.48)	(6.67)			
Calcutta Port	91929				91929
	(2.96)				
<b>Total</b>	<b>3104050</b>	<b>293833</b>	<b>5572</b>	<b>1130</b>	<b>3400547</b>
	(100.00) *	(100.00)	(100.00) *	(100.00)	

\* does not total up to 100.00

Figures in brackets indicate percentages.

Source : Same as Table 7.14.

axis was the destination for over 65 percent of the timber out-flow.

The neighbouring states of West Bengal and Bihar were relatively less important accounting for 12.63 percent of the exports and the general trend of exports appears to overcome the hurdle of distance, favouring the north India belt to the more nearby states.

At the individual state level, the regional direction of exports is generally adhered to Assam timber is headed for Delhi, Haryana, Gujarat Ports, Gujarat, Bihar and Punjab while Nagaland sends its timber to Delhi, Gujarat Ports, U.P., Rajasthan and Haryana, Tripura and Meghalaya are minor contributors to the timber trade by rail and river.

Within the NER Assam and Nagaland are the two important states from which significant quantities of teakwood and other timber are exported. Most of these valuable timber resources reach markets located at considerable distances from the region. In the case of timber products Delhi was the single most favoured destination followed by the Gujarat state and Haryana. Within Gujarat, the ports are important, viz: while the state of Gujarat is the market for 22.44 percent of NE timber, the Gujarat ports account for 14.13 percent alone. Interestingly, it is the Gujarat ports which are the destination for 50,634 quintals out of the total teak export of 61,377 quintals which is 82.5 percent,

making it the single most important destination. Some teak must be reaching foreign markets as well, since it involves destinations to the Gujarat ports.

#### 7.10 Timber Trade : Importance of Various Modes of Transport

In terms of the volume of timber handled by roads on the one hand and rail and river on the other, the latter is more important (Table 7.19).

Table 7.19  
Volume of Timber Carried by Road, Rail and River

Mode of Transport	Volume Transported (Quintals)	Year
Road	2769000 <sup>1</sup>	1995
Rail & River	3434209 <sup>2</sup>	1993-94

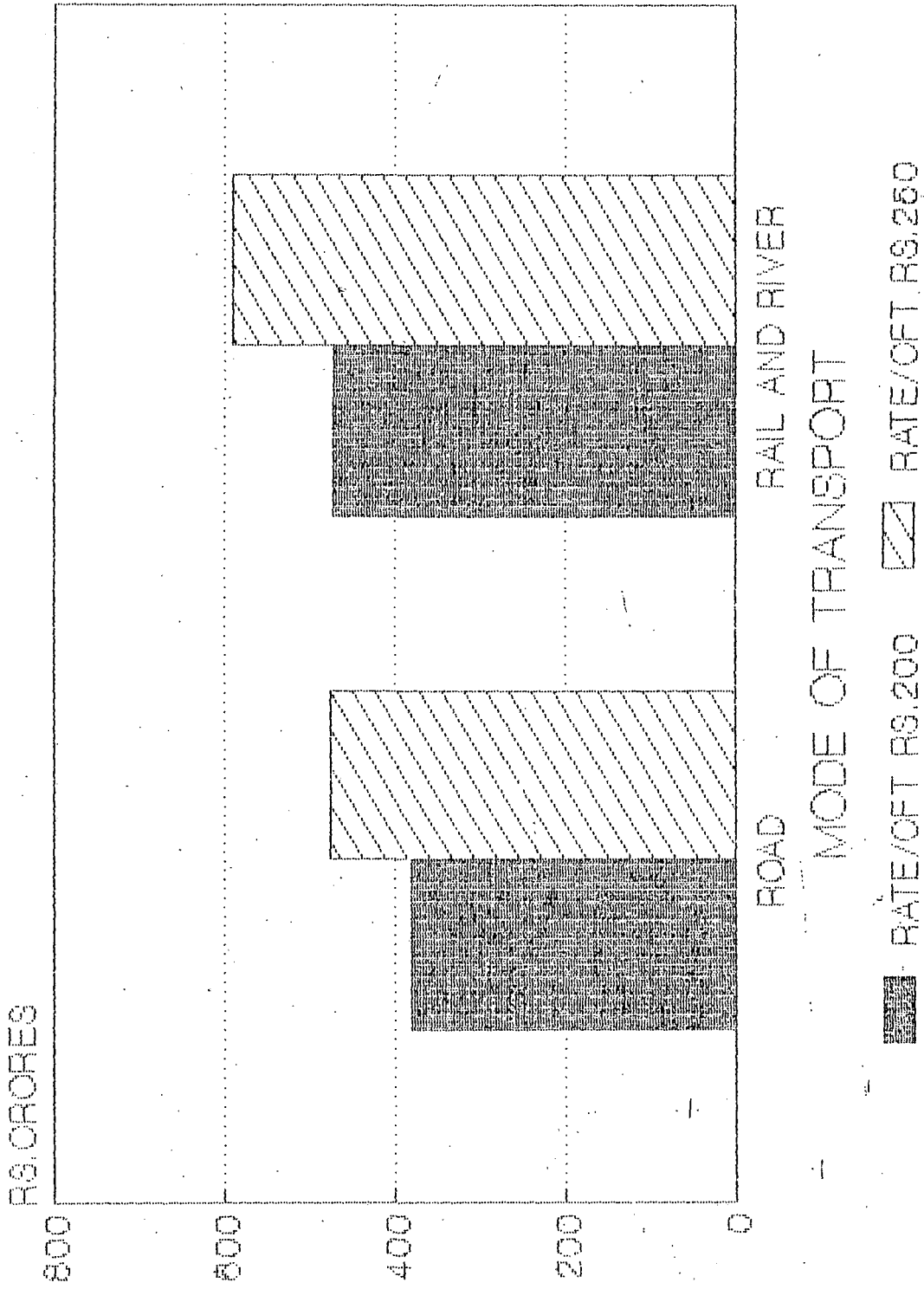
1. Annual estimation on the basis of a weekly rate of 5325 tonnes.
2. Import Export differential consisting of 3374,279 quintals of other timber and 59,930 quintals of teak.

To generate the value of such export, the estimate of Rs. 200 to Rs. 250 per cft. used to ascertain the value of 3650 tonnes of timber that is transported via Srirampur has been used. By such an estimation the following range is derived.

Table 7.20  
Value of Timber Exported

Mode of Transport	Value (Rs. Crore)	
	Rate/cu. ft. Rs. 200	Rate/Cu.ft. Rs. 250
Road	382	477
Rail and River	473.9	591.5
Total (rounded)	856	1069

# VALUE OF TIMBER EXPORTED



A massive outflow of timber resources to the tune of Rs. 856 crores to Rs. 1069 crores is taking place, annually. Since the forests are being used to feed markets outside the region, no significant "residential effects" have resulted to the regional economy.<sup>89</sup>

#### 7.11 Tea, Oil and Forests and the Export Base Theory : A Resume

The export base theory is not inapplicable to the three export sectors - tea, oil and forests - of the regional economy. What has been inapplicable are the spread effects of these export sectors on the rest of the economy. The linkage effects between the regional export sector and the non-export sector have not been forthcoming. To use North's terminology, the residential effects of these three sectors have not been generated. What has happened instead would appear to be an extractive mode of exploitation of these sectors. The profits of such (extractive) utilisation of these resources have not had any significant impact on the economy. Here the position of the government and the private sector within the regional economy comes into question.

While the export base theory presupposes a market economy with a free play of factors and comparative advantages, the export sector of the north-eastern region was under the government and basically governed by state policy in the oil and natural gas sector and in the forest sector. As a result of government monopoly in this setup no private profits could result

and few linkage development resulted. In terms of the oil industry the only accruals to the regional economy resulted in the form of sales tax and royalties to the state government. Private enterprise and free market forces could hardly come into the picture and the effect on the local economy was only notional. In a free market scenario things could have been different. Private enterprise could have negotiated royalty rates and different oilfields may have been able to make differential profits. Both of Assam and Gujarat oilfields could have had comparative advantages in utilisation of this resource. Under state monopoly with equal prices all over the country, often with investment decisions being purely political, linkage effects and the residentiary effect remained dormant. Moreover the nature of petroleum was such that once crude was tapped it could be transported over long distances, the transport cost differential in transporting the crude was not so high so as to be prohibitive in locating refineries outside of the region. And through it would have more economic to locate the Barauni refinery in Assam, it was not totally uneconomic locating it at Barauni. Thus the footloose nature of the oil industry hardly helped residentiary effects. While it is true that a variety of petrochemicals based small scale industries could have developed in the region, as was the case in Gujarat a number of factors including lack of political will at the central as well as regional level, lack of entrepreneurial spirit among the local populace, the overall low level of demand in the region, the poor industrial base coupled with the small size of population and consequent limitation of

market and the low living/consumption standards combined to inhibit any such development.

With the bulk of crude being processed outside the region, the scope for ancillary development was inhibited since the scale of operation was far too small.<sup>90</sup> Compared to the utilisation pattern of crude in Gujarat where the entire crude is processed within the state playing no mean role in enabling Gujarat to develop as a leading industrial state - in Assam only 30 per cent of the crude is utilised within the state.<sup>90</sup> In fact the BRPL is currently facing crude shortages. The proper utilisation of natural gas, wasteful as it has been, would have had partially, if not substantially different effects on the regional economy.

The other sector that remained under state monopoly was the forest sector. Unlike petroleum timber based units are not footloose and here one would have expected a residentiary effect to develop. Yet the trend of exploitation was extractive and where linkage effects could have developed, instead a trade, both legal and illegal started. This was partly because there were wide differences between prices within the region and outside and also because private units were never allowed unlimited supply of raw material. Often such units are forced to resort to procuring raw materials illegally, not only has this encouraged unauthorised exploitation to forest resources but did not encourage industrial units based on forest resources to develop ✓

the linkage effects. A policy of leasing out specified plots of land, which were to be 'farmed' by private entrepreneurs or private industrial units, whereby the extent of such leases would be controlled and monitored, may have led to a different path of exploitation of the region's forests. The benefits to the local economy would have been more than those being currently generated when huge volumes of timber are feeding the markets as raw material elsewhere in the country and overseas.

While petroleum and forests were under government control, tea remained a private enterprise. Given the foregoing analysis of the petroleum sector, under postulated conditions of a free market economy - which tea as a private enterprise enjoyed - it should have generated to some extent a residentiary effect on the regional economy. There are limits to tea industry generating linkage effects, yet even these did not occur. "Because of its feeble linkages...the tea industry is incapable of inducing the process of industrialisation in a region. In the case of Assam, even those feeble linkages could not be established within the regional economy."<sup>92</sup>

The present position of the tea industry in the region is such that given the extent of international competition and a glut in the world market, there is a limit to which it can expand. Land for expansion of tea plantation is limited. Under such circumstances the private companies that operate can only invest in other enterprises or sectors. Here again there are

constraints. Problems of profitability and expertise of tea companies in other sectors, overall low rates of consumption within the region along, with the problem of insurgent groups partaking of profits exist and these have inhibited expansion and diversification of tea companies. As a result operation of residenciary effects on the non-export sector of the economy have not taken place.

In toto, the export sector, did not give an impetus to the regional economy, so much so that a failure of the export base theory in the context of the north eastern region, more than its applicability was the result.

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## CENTRAL GOVERNMENT POLICY AND UNDERDEVELOPMENT

### 8.1. Introduction

The processes which lead to imbalances in development within countries are numerous. To an extent these could be natural as well. Within the realm of the developing economy of India there exist, of necessity, depressed and advanced regions. Naturally being a welfare state<sup>1</sup> the attempt to bridge such imbalances and regional inequalities have been a clear objective in Indian planning and the north eastern region (NER) of the country has since long been treated as a backward area, with special concessions being given to it. What are these special considerations and what have been the implications and results of such policy ? Is it that the central government policies have not paid enough importance to the region, in terms of allocation of finances and financial subsidies ? Or has the centre allocated sufficient funds and yet the results have not been forth coming as expected ?

These are some of the pertinent questions this chapter aims to address. In this Chapter the policies of the central government particularly policies relating to the allocation of financial resources under various schemes and plans will be evaluated with special emphasis in the following aspects.

- i. transfer of resources through plan assistance
- ii. transfer of revenue resources

- iii. special schemes to promote entrepreneurial development
- iv. impact of industrial dispersal, and
- v. role of financial institutions.

## 8.2. Transfer Of Resource Through Plan Assistance

The problem of regional imbalances in developmental levels that existed in India was one that was always borne in mind by the centre as evidenced by Plan documents. The First Plan recognised that one of the broad areas on which research was to be concentrated were the problems relating to regional development<sup>2</sup> (albeit with special reference to rapid urbanisation). The Second Plan stressed that the special needs of the less developed areas should receive special attention and that the emphasis of developmental efforts should be on extending the benefits of investment to underdeveloped region<sup>3</sup>. The second plan gave importance to the following policies aimed at balanced regional development :

- i) priority to agriculture, community development, irrigation and special irrigation and local development works, etc. which would spread over the entire area within the shortest possible time;
- ii) provision of power, water supply, transport and communications, training institutions, etc. in areas that were industrially backward or in regions where there was a need for providing employment opportunities;
- iii) programmes for the expansion of village and small industries; and
- iv) in locating new enterprises, public or private, consideration of the need for developing a balanced economy throughout the country, especially where industrial location was not raw material based<sup>4</sup>.

However, the third plan went a step further with a separate chapter on 'Balanced Regional Development. It stated that "the size and pattern of outlays in the states... are calculated to reduce disparities of development between states"<sup>5</sup>, that given certain considerations such as techno-economic criteria and competitiveness in foreign markets, the needs of potential industrial areas should be kept in view<sup>6</sup>. While holding that national development and regional development were parts of a single process<sup>7</sup>, it accepted that "Under-developed areas which need special attention have to be more closely identified, their resources surveyed and the factors influencing their development examined"<sup>8</sup>. In all, the Third Plan promised a good deal.

Yet until the Third Plan, not much was achieved in the north eastern region. It has been noted that between 1946-47 to 1949 total development expenditure in composite Assam was less than 6 crores out of Rs. 250 crores by all provincial governments and although 85 percent of this was from the Centre, it was not sufficiently appreciated that provision for transport and communication was basic for industrialisation'<sup>9</sup>. Under the first three Plans the region did not get enough funds, being allocated only 2.04 percent of the total outlay of Rs. 1423 crores in the First Plan, barely 3 percent in the Second and 3.3 percent in the Third. It was clear that "figures (allocations) for north-east India were very small" and "the Centre did not appreciate the strategic importance of the North East"<sup>10</sup>,

However, this did not reflect anything apart from the general lack of direction of the planning process as far as translating into reality the much touted objectives of balanced regional development were concerned. There were no objective criteria in deciding the distribution of resource transfers among different states and much arbitrariness existed<sup>11</sup>. In fact upto the beginning of the Fourth plan in 1969 Central assistance was mainly as a gap bridging arrangement<sup>12</sup> that was 'at best vague and at worst ambiguous'.<sup>13</sup>

Only from the Fourth Plan were there concerted policy measures to reduce regional disparities in India<sup>14</sup> when the Gadgil Formula<sup>15</sup> was evolved and has been operative since then, in modified form. The Gadgil Formula, in its original form, guided plan assistance on the basis of weightages to population (60 per cent) and 10 per cent to (a) per capita income if below the national average, (b) tax effort in relation to per capita income, (c) continuing irrigation and power projects costing over Rs. 20 crores and (d) the existence of special problems of states including problems of metropolitan, flood-prone, drought-prone and tribal areas.

Under this formula 30 percent of plan assistance was to be in the form of grants and 70 percent in the form of loans. For the North-Eastern states, including Assam, and Jammu and Kashmir, the break-up was 90 percent grants and 10 percent in the form of loans. Later, in 1980 a modified formula was approved, and in

place of the 10 percent weightage for irrigation and power projects, the weightage given to per capita income was enhanced to 20 per cent, the other items of the plan assistance remaining the same.<sup>16</sup> While under this scheme of assistance the Special Category States (SCS) were well placed, Assam had not been unduly favourably allocated. (Table 8.1).

**Table 8.1**  
**Per Capita Plan Outlays : Assam and All India** (Rupees)

Plan	I	II	III	IV	V	VI	VII
Assam	29	57	103	136	190	526	850
All India	38	51	92	142	262	687	1026

Source : CHIE, 1989, Basic Statistics Relating to the Indian Economy, Vol. 2, States.

However, barring Assam, the remaining states were significantly favourably allocated, with Nagaland receiving the highest per capita assistance in the Fourth and Fifth Plans among all states of the country. While there is no doubt that barring Assam the states of the North Eastern Region have been, under the special category status, given substantially higher allocations than the all India averages.

Though the special category status of most of the states of this region have placed these states in favourable positions, but by working at the ground reality, these advantages and favours were far short of what needed to be done. Prolonged neglect of these states, low base level of development activities

enhanced strategic significance in the light of changed international power balance and rising levels of development of people have exerted additional pressure on the limited resources. Thus, the allocations done under SCS could be considered much less than what may necessary.

### 8.3 Transfer of Revenue Resources

Statutory transfers by the Finance Commissions have been termed as gap-filling in nature and barring the Seventh and Eight Commissions this was true. Such an approach notwithstanding what is of relevance to the present analysis is the degree of progressiveness of the devolutions and how far the north eastern states of the country were affected and as to whether the philosophy of "the scheme of distribution should attempt to lessen the inequalities between states"<sup>17</sup> forwarded by the First Commission was put into practice or not. The analysis is confined to horizontal sharing of taxes and to the consideration of income tax sharing and sharing of basic Union excise duties since these two taxes account for the bulk of the total devolution.

The criteria for distributing income tax among the states have been mainly population and contribution as shown in Table 8.2. Population was considered as a measure of need, while contribution (or collection or assessment) was to compensate in part for the drain of incomes of local origin via income tax.<sup>18</sup> Population has been equated with the requirements of a state and the weightage given to it has varied between 80 to 90 percent for

**Table 8.2**  
**Criteria for Sharing of Income Tax**

	Contri- butions	Popu- lation	Per Capita Income Distance Criterion	Per Capita Income Inverse Criterion	Specific Indicators of Back- wardness	Poverty Criterio
First (1952-57)	20	80				
Second (1957-62)	10	90				
Third (1962-66)	20	80				
Fourth (1966-69)	20	80				
Fifth (1969-74)	10	90				
Sixth (1974-79)	10	90				
Seventh (1979-84)	10	90				
Eighth (1984-89)	10	22.5	45	22.5		
Ninth I (1989-90)	10	22.5	45	11.25		11.2
Ninth II (1990-95)	10	22.5	45	11.25	11.25	
Tenth (1995-2000)	-	20	60	-	10	

Source : Guhan, S. (1996) "Report of Tenth Finance Commission",  
EPW, XXX, 16.

the first Seven Finance Commissions. In the context of the north eastern states, which generally have low population sizes and densities well below the national averages (with the occasional exception of Tripura) the progressive aspect has not helped in any way. In fact apart from the Tenth Finance Commission the shares of income tax allocated to the region have always acted in the retrogressive manner being less than the region's population share out of the national total (Table 8.3).

Table 8.3  
Share of Income Tax of N.E.R.

Year	Finance Commission	% All India Allocation	% All India Population	Population Estimate
1957-62	Second	2.44	3.09	1951-61 mid point
1962-66	Third	2.44	3.30	1961
1966-69	Fourth	2.51	3.45	1961-71 mid point
1970-73	Fifth	2.75	3.57	1971
1974-79	Sixth	3.26	3.60	1971-81 mid point
1979-85	Seventh	3.23	3.62	1981
1985-89	Eighth	3.35	3.68	1981-91 mid point
1989-90	Ninth-I	3.33	3.31	1991
1990-95	Ninth-II	3.55	3.79	1995 projection
1995-2000	Tenth	4.23	3.83	2001 projection

Source : (1) RBI Bulletin, Jan-Feb., 1996  
(2) NEC Basic Statistics, 1995.

The population share of the region corresponding to the respective Finance Commissions were derived by mid year estimates while for comparison with the Ninth (1990-95) and Tenth Finance Commission, the population growth rates of 1981-91 have been used to project the 1995 and 2001 populations. Since growth rates, for the north eastern region, at 27.45 percent, were higher than national rates at 23.85 percent, the share of regional to national population has increased slightly.

It is clear from Table 8.4 that apart from the Tenth Finance Commission, no other Commission's awards were progressive\* for the developing economy of North East India. This is due the criteria used in devolution. Population is not predominant criteria until the Seventh Finance Commission.

\* - In this context progressiveness has been considered in terms of contributing to the economy in higher proportion than the proportionate population size of the NE Region.

Similarly all the Finance Commissions have used contribution or collection as a criteria giving it 10 or 20 per cent weightage. However, here again, backward states including the north eastern region, are not in an advantageous position since their contributions are limited, reflecting the limited diversification and limited industrial/tertiary base of the economy. Assigning a weight to collection or assessment favours the rich urban states<sup>20</sup> that possesses relatively more diversified economies and greater per capita incomes, higher purchasing powers and naturally more substantial tax contributions. In fact the regressiveness of collection as a principal of tax sharing has been since long pointed out.<sup>21</sup> It has been pointed out that equal resource transfers will permit unequal levels of budgetary expenditure because of the unequal fiscal capacity of states, and hence equal treatment of unequals can only increase inequalities.<sup>22</sup> While the developed states argue that urban centres necessitate larger expenditures from state revenues and seek to give a legitimacy to the collection principle. However, such a contention is not valid since the reverse holds good as well : that urban concentrations generate high incomes.<sup>23</sup> Often the more urbanised and industrialised states contribute substantially more than what incomes are of local origin since such states often have the registered and head offices of private companies located within ~~them~~, while the factories may be located in other states. This is true of the tea companies of Assam which have head offices at Calcutta, thereby

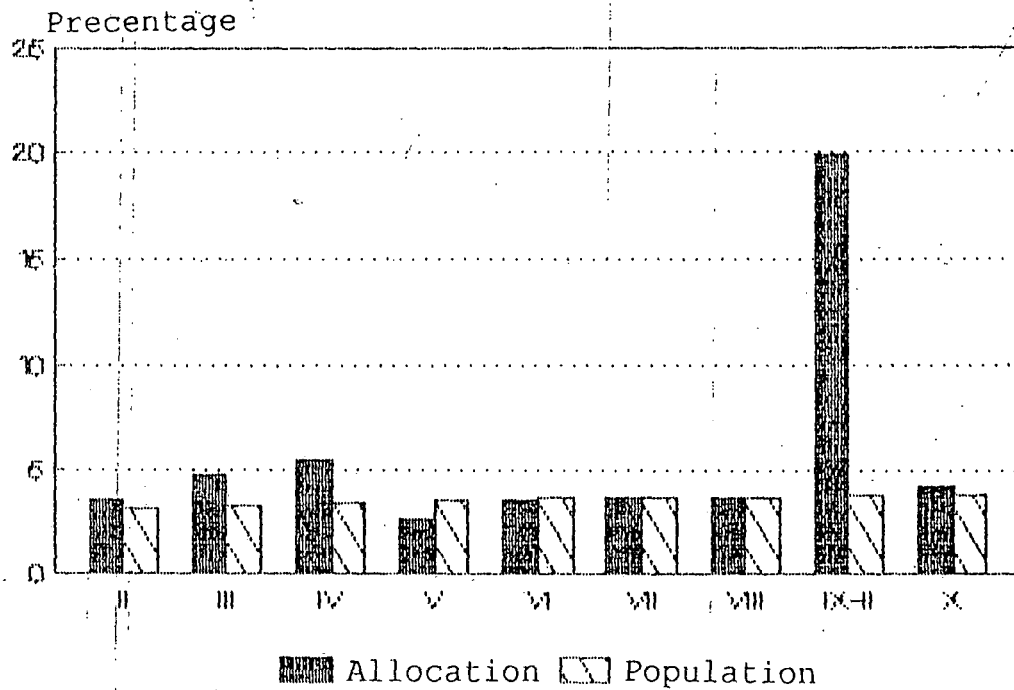
## CHAPTER IX

### SUMMARY OF CONCLUSIONS

#### I.

1. Development has become an increasingly debated issue and its spatial and social articulations have only compounded its conceptual cobwebs. Regional development and underdevelopment occurs for a variety of reasons. According to the one school of thought, that of the dependency theorists, the prime reason for the Third World being underdeveloped, lies in their incorporation into the world capitalist system, the consequent exploitation allowing development of the colonising powers. The NER, like the rest of the country was one such area, that experienced a short but powerful impress of colonial interest-led development.
2. The NER is, a veritable microcosm of the larger Indian entity. The area is a mixture of hills, plateaus and valleys that play host to a multiplicity of tribes, cultures and peoples. In many respects the region is rich in resources but poor in realised potentials.

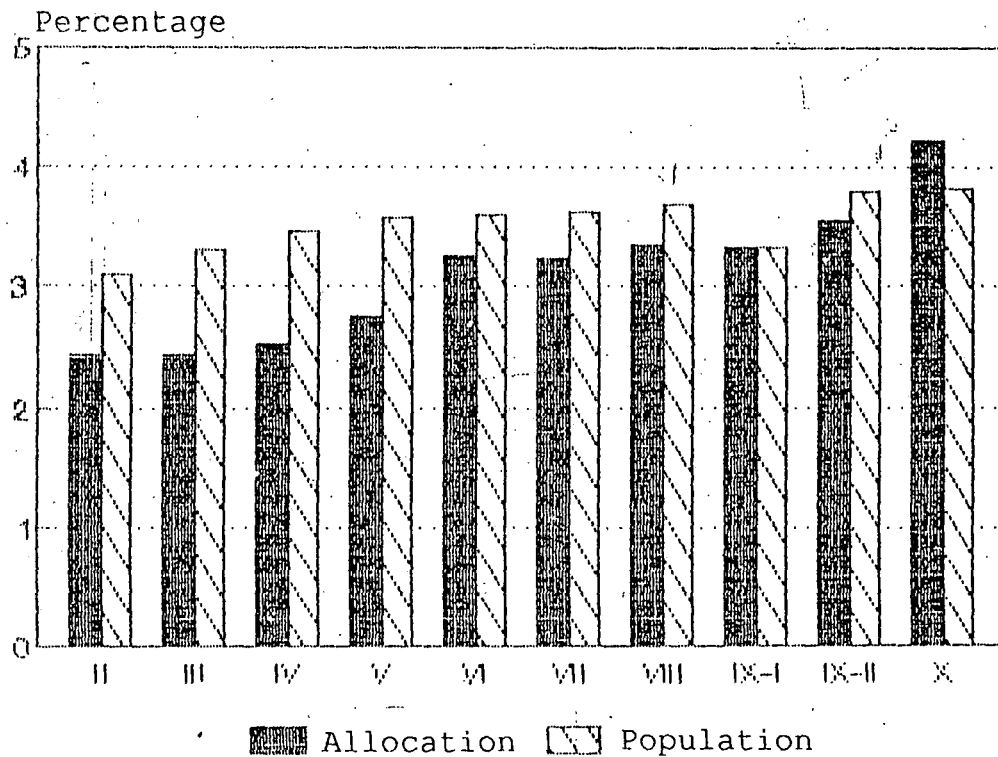
# UNION EXCISE DUTIES SHARE OF N.E.R.



Percentage To All India

Diag. 7(a)

# INCOME TAX ALLOCATION TO N.E.R.



Percentage To All India

Diag. 7(b)

enhancing West Bengal's contribution and to a degree, West Bengal's share of Finance Commission allocations.

The collection principle is applied not only to income tax and excise duties (as will be seen in the following section) but also in making grants in lieu of railway fares and wealth tax on agricultural property - although the amounts so transferred are quite small and may not be of significance in terms of regressivity in aggregate statutory transfers.<sup>24</sup>

The trend of non-progressiveness of Finance Commission Transfers for the north eastern region (Table 8.3) was cut short by the new devolution formula adopted by the Tenth Commission, which gives a 60 percent weightage to the distance criteria and makes a significant break from the past. Although from the Eighth Finance Commission onwards 45 percent weightage to distance was given and also to inverse income and backwardness criteria, for the north eastern region, these were not progressive.

The sharing of Union excise duties under the Finance Commissions were relatively more progressive than those related to shares of income tax. Starting with the Second, till the Fourth the allocations were slightly higher than the share of population the region hosts out of the national total (Table 8.4).

**Table 8.4**  
**Share in Union Excise Duties of the NER**

Year	Finance Commission	% All India Allocation	% All India Population	Population Estimate
1957-62	Second	3.46	3.09	1951-61 mid point
1962-66	Third	4.73	3.30	1961
1966-69	Fourth	5.52	3.45	1961-71 mid point
1970-73	Fifth	2.59	3.57	1971
1974-79	Sixth	3.52	3.60	1971-81 mid point
1979-85	Seventh	3.68	3.62	1981
1985-89	Eighth	3.69	3.68	1981-91 mid point
1990-95	Ninth-II	19.78	3.79	1995 projection
1995-2000	Tenth	4.23	3.83	2001 projection

Source : Same as Table 8.3.

The Ninth Commission (1990-95) gave a significantly higher allocation than the region's share of the national population. In fact the Ninth Commission's First Report had also given a similarly progressive devolution to the NER, allocating 7.3 percent of the shareable Excise duties (i.e., out of the 40%) and 57 percent out of the remaining 5 percent that was for deficit states. As regards the criteria for devolution, again population remained a major criteria until the Sixth Commission (barring the Third Commission for which criteria was not disclosed, but in effect this was the per capita income distance criteria<sup>25</sup>). The Seventh Commission gave 25 per cent weightage to four factors. But for backward regions it was from the Eighth Commission onwards that backwardness was the most important factor.

*Analysis of allocations in % could have been better understood if absolute figures in Rupees were reviewed in the light of land & Popn. units as shown in Table 8.1.*

In context of the present analysis it is sufficient to note that in terms of union excise duty sharing, the allocations received by the NER were quite favourable.

#### 8.4 Special Schemes to Promote Entrepreneurial Development

As far back as in 1951 the government noted that "if industrial development in the country is to proceed rapidly and in a balanced manner, greater attention will have to be paid to the development of those states and regions which have so far remained backward".<sup>26</sup> Although rectifying regional imbalances did not figure in the Industrial Policy Resolution (1948) when the industrial policy of the Government of India was restated in 1956 the need to correct regional imbalances in levels of industrial development was clearly stated.<sup>27</sup>

The Industry Policy Statement of 1977 followed the provisions of the earlier policies and did not offer any radical changes. It was the industrial policy of 1980 announced by the Congress(I) government that was clear on correcting regional imbalances. "Industrialization is a sine qua non of economic progress. Our Government is committed to rapid and balanced industrialization of the country with a view to benefiting the common man in the shape of increasing availability of goods at fair prices, larger employment and higher per capita income"<sup>28</sup>, it stated.

Among the socio-economic objectives put forward were the (a) correction of regional imbalances through a preferential development of industrially backward areas, and (b) promoting economic federalism with an equitable spread of investment and the dispersal of returns amongst widely spread over small but growing units in rural as well as urban areas.<sup>29</sup>

It sought the removal of regional imbalances and the industrialization of backward areas. These have been attempted via three major schemes :

- i) Central Investment Subsidy Scheme,
- ii) Central Assistance for Infrastructural Development in No-Industry Districts, and
- iii) Transport Subsidy Scheme.<sup>30</sup>

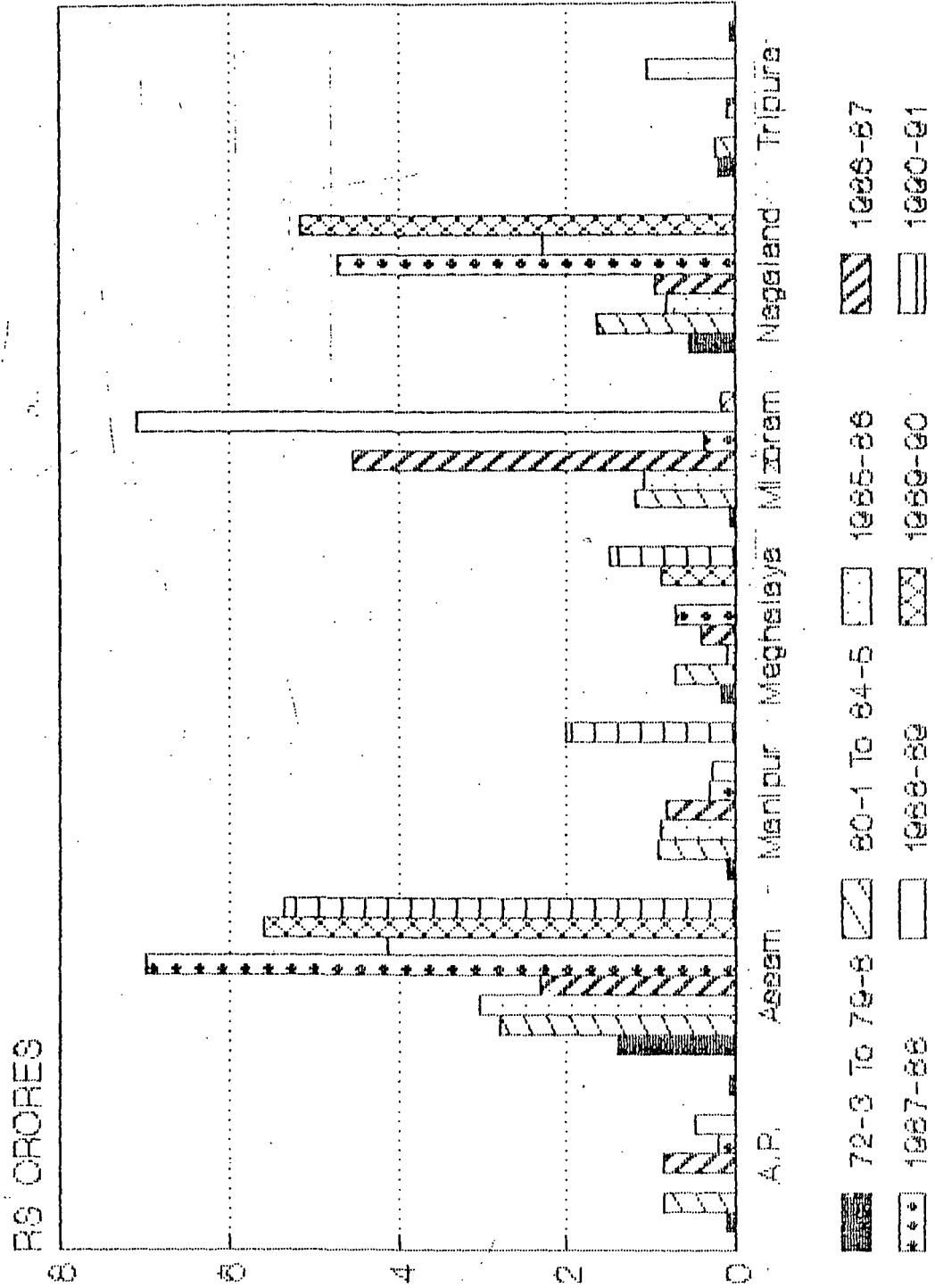
Under the first scheme, which had been introduced in 1981 and periodically modified, to encourage entrepreneurs to set up industries in lagging behind areas, backward areas were identified and locating industries in such areas made the units eligible for the Central Investment Subsidy Scheme. The backward areas were classed into three categories as below<sup>31</sup> :

- i) Category A : No-industry Districts plus special regions.
- ii) Category B : Districts earlier eligible for Central Investment Subsidy minus the districts in Category A, and
- iii) Category C : Districts earlier eligible for concessional finance minus districts included in category A and B.

These districts were eligible for varying percentages of subsidy ranging from 10 percent (and subject to a maximum of Rs. 10 lakhs) in category C districts to 25 percent (subject to a maximum of Rs. 25 lakhs in plains districts and 50 lakhs in hill areas for setting up electronics industries). Entrepreneurs setting up "nucleus plants" in category B and C would be eligible for slighter higher subsidies than 10 and 15 percent, again subject to a maximum of Rs. 20 lakhs and Rs. 15 lakhs respectively. Until 1987 December, over Rs. 606 crores had been disbursed to states and Union Territories excluding New Delhi and Chandigarh.<sup>32</sup>

Until 1990-91 out of a total of Rs. 1036.17 crores reimbursed to backward districts throughout the country, the north eastern states had derived an amount of Rs. 76.34 crores. Out of this more than 40 percent had gone to Assam alone, which amounted to Rs. 31.61 crores and just 3.05 percent of the national total. As a whole the region's share of the central reimbursement was 7.37 percent (Table 8.5). The scheme has now been discontinued.

# CENTRAL INVESTMENTS SUBSIDY SCHEME REIMBURSEMENTS TO N.E. STATES



Diag. 8

**Table 8.5**  
**Reimbursements Made Under Central Investments Subsidy Scheme**

(Rs in crores)

(Rs in crores rounded off)

State	1972-73 to 1979-80	1980-81 to 1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	Total
Arunachal Pradesh	0.09 (0.13)	0.87 (0.39)	-	0.84 (0.67)	0.22 (0.14)	0.48 (0.31)	-	0.06 (0.05)	2.56 (0.24)
Assam	1.39 (2.01)	2.80 (1.25)	3.02 (2.98)	2.32 (1.85)	7.00 (4.53)	4.12 (2.66)	5.60 (6.89)	5.36 (4.20)	31.61 (3.05)
Manipur	0.12 (0.17)	0.91 (0.40)	0.90 (0.89)	0.83 (0.66)	0.30 (0.19)	0.27 (0.17)	-	2.00 (1.57)	5.33 (0.51)
Meghalaya	0.19 (0.27)	0.71 (0.32)	0.12 (0.12)	0.43 (0.34)	0.71 (0.45)	-	0.88 (1.08)	1.52 (1.19)	4.56 (0.44)
Mizoram	0.06 (0.08)	1.20 (0.54)	1.08 (1.06)	4.55 (3.63)	0.38 (0.24)	7.08 (4.57)	0.16 (0.19)	-	14.51 (1.40)
Nagaland	0.54 (0.78)	1.65 (0.74)	0.82 (0.81)	0.95 (0.75)	4.72 (3.05)	2.28 (1.47)	5.14 (6.32)	-	16.10 (1.55)
Tripura	0.22 (0.31)	0.23 (0.10)	-	0.10 (0.07)	-	1.05 (0.67)	-	0.07 (0.05)	1.67 (0.16)
N.E. Region	2.61 (3.78)	8.37 (3.76)	5.94 (5.86)	10.02 (8.01)	13.31 (8.63)	13.28 (8.57)	11.78 (14.49)	9.01 (7.07)	76.34 (7.37)
All India	69.04	222.71	101.27	125.12	154.35	154.97	81.30	127.41	1036.17

Note : Figures in parenthesis indicate percentage to All India total, rounded off.

Source: Department of Industrial Development, Ministry of Industry, New Delhi.

In terms of this subsidy, the region was neither well placed nor poorly placed vis-a-vis the rest of the country, since the region accounts for 7.7 percent of the total country's area. However, it is clear that the region could not derive any significant benefit from this scheme. Whether this was due to the low infrastructural base or other factors such as peripheral location and limited entrepreneurship is beyond the scope of the present analysis. However, as in other respects Assam derived the maximum benefits in relative terms vis-a-vis the remaining states, while Mizoram and Nagaland did not lag very far behind.

Recognising the impediment of absence of infrastructural facilities to industrial development, a scheme of assisting the concerned state governments to develop infrastructure in one or more identified growth centres in each No-industry District was started.<sup>33</sup> The assistance was to the tune of a third of the total cost of infrastructural development subject to a maximum of Rs. 2 crores per district. *Plan?*

While for the rest of the country the scheme of infrastructural Development Assistance (IDA) was of Rs. 2 Crore as central government subsidy, and equal share from the state government and Rs. 2 crores as concessional loan from IDBI or conversely the break-up could be Rs. 2 crores as central subsidy, Rs. 4 crores from the state government and Rs. 5 crores from IDBI after the former were spent; the scheme was further liberalised for the NER.<sup>34</sup> However, the scheme did not take off in the region and only Mizoram had utilised funds for infrastructural development of one district until 1987 December as against a total amount released of Rs. 11.42 crores for, apart from Mizoram, state governments of Rajasthan, Orissa, U.P., Karnataka, M.P. and Maharashtra.<sup>35</sup> This scheme is relatively new, and each growth centre is envisaged to receive funding to the tune of Rs. 30 crores. So far out of the 39 centres approved, the states of the NER have been allotted one centre each, barring Assam, which has been allotted three such centres.<sup>36</sup>

Insofar as the transport subsidy scheme introduced in 1971, is concerned, the subsidies were meant for hilly, remote and generally inaccessible areas. Apart from the whole of the NER, Sikkim, Jammu and Kashmir, Himachal Pradesh, Lakshadweep, the Andaman & Nicobar Islands, the hill districts of Uttar Pradesh and West Bengal were covered by this scheme.

Subsidies at the rate of 90 percent of the transport costs of transporting industrial raw material into the region and finished products taken out of the selected areas between the location of new or existing areas and identified rail heads/ports are given. For the movement of raw material within the region as well, the transport subsidy applies. For air transport of electronic components/products from Calcutta airport to the airport nearest to the location of the industrial unit, a subsidy at the rate of 75 percent is allowed.

Until 1991-92 out of a total subsidy of about Rs. 100 crores, exactly half had been accounted for the north eastern states (Table 8.6). Yet again the centrally located, comparatively better equipped state of Assam took the lion's share of over 70 percent of the regional total.

**Table 8.6**  
**Reimbursements Given Under the Transport Subsidy Scheme**  
 (Rs. in lakhs)

State/UT	1976-77 to '79-80	1980-81 to '84-85	1985-86 to '89-90	1990-91	1991-92	Total
Arunachal Pradesh	-	6.37	225.14	212.71	-	444.22
Assam	3.73	438.22	897.00	1604.90	662.93	3606.78
Manipur	0.3	0.84	6.5	16.78	-	24.42
Meghalaya	-	19.12	83.82	50.27	-	153.21
Mizoram	-	-	-	23.58	-	23.58
Nagaland	-	-	223.51	217.32	205.73	646.56
Tripura	2.0	3.36	55.41	57.86	-	118.63
NER	6.03	467.91	1491.38	2183.42	868.66	5017.4
Others	2.01	134.54	3220.88	1091.97	561.34	5010.74
All India	8.04	602.45	4712.26	3275.39	1430.0	10028.14

"Others" denotes Himachal Pradesh, Jammu and Kashmir, Andaman & Nicobar Islands, Sikkim and hill areas of Uttar Pradesh.

Source : Department of Industrial Development, Ministry of Industry, New Delhi.

While Assam is the most 'advanced' state in the region and is bound to benefit slightly or even substantially more, the fact is that physically far-flung areas like Tripura, Mizoram and Arunachal Pradesh are at a disadvantageous position partly due to their location. This needs elaboration.

Now, the scheme is such that it allows subsidy on movements of raw material into the region and finished products upto Siliguri rail-head. However, since raw material bound for Guwahati, need not be utilised only thereabouts and in fact can be put in a unit located in, say for instance, Chhimituipui district of South Mizoram, it effectively places units of the latter nature at a disadvantage. This is not infrequently the case since better business links exist between Guwahati, Tinsukia

and Dimapur vis-a-vis extra regional trading concerns, than those between peripherally located small units in centres with weaker 'business cultures' and the latter; hence incoming raw material to Guwahati or Dimapur would not stop there, but flow much further, yet without the subsidy benefit. Thus the clause which disallows subsidy on internal movement of raw material within the region requires reconsideration.

. A second problem with small units peripherally located is that chartered accountants do not exist in many towns of the region, barring Assam. States like Mizoram and Arunachal Pradesh have almost no CA firms and therefore faced difficulties in availing of such subsidies since the application for transport subsidy requires the certification of the CA. Small entrepreneurial units would have to get these authenticated in the nearest CAs office, which could be a few hundred kilometres away.

Finally, subsidy is allowed upto Siliguri rail-head for finished products. By allowing subsidy upto Siliguri the aim is to put the industrial units of the north eastern at par with a unit operating at Siliguri or thereabouts. However since the region is backward and not attractive to entrepreneurs from outside, the need is to place it on an advantageous position vis-a-vis the rest of the country. Thus if the transport subsidy is extended, beyond Siliguri, only then will the products from the region which are not high value items and hence cannot withstand

high costs of transportation to markets at Bombay or New Delhi - be truly competitive. It is felt that the subsidy can be extended with the caveat of distance to the market being a criteria, and this would not necessitate enhancing the subsidy <sup>on</sup> ~~from~~ items sold at Calcutta, (which already derive benefits from the subsidy upto Siliguri) yet be favourable for sale of products to more distant markets.

It is evident that most of the subsidies have been apportioned by a larger units operating in the region (Table 8.7). Generally the smaller units found it difficult to claim the subsidy due to some technical flaws in the scheme, which did not allow subsidy if only part of a truck was used to transport raw material/finished goods. Such problems were faced by small size units in Himachal Pradesh, Jammu and Kashmir and the Andamans as well.

**Table 8.7**  
**Disbursements Made Under the Transport Subsidy Scheme**

(Rs. Lakhs)

State	Main Beneficiaries	Amount Disbursed					
		1993-94			1994-95		
		Total	To Main Beneficiaries	% of Total TS	Total	To Main Beneficiaries	% of Total TS
		TS <sup>†</sup>	Amount	% of Total TS	TS <sup>†</sup>	Amount	% of Total TS
Arunachal Pradesh		-	-	-	47	-	-
	i) Dibang Valley Timber Trade Corpn.	-	-	-	24	51.06	
	ii) Arunachal Plywood	-	-	-	17	37.07	
Assam		980			837		
	i) Hindustan Paper Corporation		690	74.28	523	62.48	
	ii) Assam Asbestos Ltd.		-	-	98	11.71	
	iii) Woodcrafts Products Ltd.		-	-	100	11.95	
Manipur		58			105		
	i) Meerless Steel Ltd.		35	60.34	89	84.76	
	ii) Manipur Vanaspati & Allied Products		10	17.24	17	17.19	
Meghalaya		136					
	i) Meghalaya Plywoods Ltd.		30	22.05			
	ii) Virgo Cement Ltd.		19	13.97			
	iii) Premier Roller Flour Mills		16	11.76			
Mizoram		322			49		
	i) Mortin Steel Fabrication		79	24.50	14	28.56	
	ii) Virgo Cement Ltd.		83	25.77			
	iii) BCA Cables		62	19.25	18	36.73	
Nagaland		145					
	i) Nagaland Paper & Pulp Co,		145	100.00	-		
Tripura		23			86		
	i) Bawri Plywood Ltd.		17	73.91	18	20.92	
	ii) Pioneer Roller Flour Mills		-		18	20.92	

\* TS = Transport Subsidy

Source : The Report of the Group on Industrial Development of the North Eastern Region, Ministry of Finance, GOI, 1995.

### 8.5 Impact of Industrial Dispersal

While there is no doubt that India has achieved significant growth in industrial development, there is less

unanimity as to its spatial distribution. While the 7 north eastern states together contribute less than 2 per cent to the national industrial output (chapter 5) the 5 advanced states of Maharashtra, Tamil Nadu, Gujarat, West Bengal and Andhra account for 55 to 60 per cent of the same in terms of standard indicators like employment, output and value added. This situation is indicative of marked regional imbalances. To combat such a development the Industries (Development and Regulation) ACT 1951 was passed in 1952.<sup>37</sup> One of the objectives of this act was to accomplish balanced regional development in the country and to reduce disparities in levels of development spatially. It sought to achieve this by a policy of industrial licensing, wherein licenses for starting industries in developing regions would be encouraged and those in the already developed regions would be discouraged or even denied. The Licensing Policy did not work very well and was unable to prevent disparities between regions and also between states; and the pull of developed enclaves continued. The Hoogly district of West Bengal, a smattering of urban areas in Maharashtra and in the Punjab were able to corner 70 percent, 86 percent and 95 percent of the industrial capacity respectively.<sup>38</sup> One study based on the 1961 census showed similar trends for the big cities of Bombay, Calcutta and Madras.<sup>39</sup> As far as the north eastern region of India, an industrial backwater of the country is concerned, the following analysis on the basis of industrial licences to no industry and backward areas, the impact does not appear to have had much significance. (Tables 8.8 and 8.9).

**Table 8.8**  
**Letters of Intent and Industrial Licences Issued to No-Industry Districts (1982-87)**

State	Letter of Intent	Industrial Licences
Arunachal Pradesh	9	9
Assam	12	1
Manipur	2	-
Meghalaya	6	2
Mizoram	1	-
Nagaland	3	-
Tripura	2	1
NER	35	13
All India	631	123
% NE to All India	5.5	10.5

Source : Handbook of Industrial Statistics, 1988, Ministry of Industry, GOI.

**Table 8.9**  
**Letters of Intent and Industrial Licences Issued to Backward Areas (1982- 1987)**

State	Letter of Intent	Industrial Licences
Arunachal Pradesh	13	13
Assam	65	51
Manipur	3	-
Meghalaya	13	2
Mizoram	1	-
Nagaland	9	5
Tripura	2	1
NER	106	72
All India	3823	1682
% NE to All India	2.7	4.2

Source : Handbook of Industrial Statistics, 1988, Ministry of Industry, GOI.

As far as the Letters Of Intent (LOI) and Industrial Licences (IL) to the no-industry districts were concerned, the region was able to garner 5.5 per cent and 10.5 per cent of the national totals respectively. While in terms of LOI and IL issued

to backward areas, the region fared slightly poorly accounting for 2.7 per cent and 4.2 per cent of the national totals respectively.

Things have not changed in any visible manner in the post liberalisation era, with the region accounting for 0.7 per cent of the LOI issued, 3.98 percent and 1.25 per cent of the proposed investment and proposed employment respectively of the country's respective totals (Table 8.10). The regional to national scenario of investment preferring to stay away from the peripheral NER, appears to get reflected within the region as well in which investment seems to be inclined to favour Assam, the centrally located state, to the other states.

**Table 8.10**  
**Industrial Investment Proposed in NER (1991-1994)**

State	Letters of Intent in the Licensed Sector		
	Issued (Nos.)	Proposed Investment (Rs. crores)	Proposed Employment (Nos.)
Arunachal Pradesh	3	1	380
Assam	9	1852	4128
Manipur	-	-	-
Meghalaya	-	-	-
Mizoram	-	-	-
Nagaland	1	-	-
Tripura	-	-	-
NER	13	1853	4508
All India	1878	46524	359627

Source : The Report of the Group on Industrial Development of the North Eastern Region, GOI, 1995.

Another 'index' of the success of industrial dispersal used is the position of investment in industry by the Central Government in different states, as published by the Bureau of public Enterprises.<sup>40</sup>

**Table 8.11**  
**Distribution of Assets of Public Sector Undertakings in N.E.R.**

States	1975-76	1980-81	1984-85	1985-86	1986-87
Arunachal Pradesh	-	-	-	-	52.47
Assam	271.9	671.56	2451.1	3011.7	3808.7
Manipur			131.3	137.6	139.7
Meghalaya			1.89	2.66	4.27
Mizoram					
Nagaland			72.98	75.9	78.17
Tripura			93.38	123.7	160.83
<u>NER</u>					
All India	3,112.3	21,182.2	47,323.3	56,806.4	68,051.8

Source : 1) Public Enterprises Survey, 1985-86, 1986-87 & 1987-88  
2) Handbook of Industrial Statistics, 1988.

From Table 8.11 it is evident that there has been, in absolute terms, substantial growth in terms of distribution of assets of CPSU in the region ; and while there is no doubt that the large number of collieries and steel plants in states like Bihar, West Bengal and Madhya Pradesh have enhanced the investments in these states as well as in terms of employment statistics, yet, the virtual absence of any investment (in terms of assets) with barely 5.5 percent of the nation's total indicates how little of the balanced regional growth policy has been realised, especially in the peripheral north eastern region. With the introduction of the New industrial Policy (NIP) in 1991,

*Show in the T. 8-11*

wherein the need for licensing has been confined to 15 industries, the north eastern region appears to have been bypassed in terms of investment intentions (Table 8.12) While developed states appear to have attracted more investments, these appear to have petered out for the north eastern region from already low levels in the pre-investment days. We can ascribe such a trend to the free market forces being attracted to those states where the gains or returns on investments are perceived to be better. Thus while in the post-NIP period from August 1991 to December 1994 over 18,000 investment intentions with an overall investment of Rs 390 thousand crores and a proposed employment of 3.5 million persons were received for the whole country,<sup>41</sup> the NER was almost insignificant with only 58 investment intentions received, even lower than the 104 received during 1988 to 1991 in Corporation of India (GIC). These Financial Institutions variously grant concessional finance, loan assistance and underwrite assistance along with/or providing funding at low interest rates, projects for diversification, renovation or expansion of industrial units. While generally such institutions have tended to favour the industrialized states of Maharashtra, Gujarat, Tamil Nadu and West Bengal<sup>42</sup> the present analysis compares the financial assistance sanctioned to the north eastern region vis-a-vis the rest of the country to find out whether by such policies regional disparities have been accentuated or ameliorated.

**Table 8.12**  
**Investment Intentions Before and After The New Industrial Policy**

States	Pre-New Policy		Post-New Policy	
	Jan. 1988 - July 1991		Aug. 1991 - Dec. 1994	
Arunachal Pradesh	3		4	
Assam	73		48	
Manipur	16		0	
Meghalaya	6		3	
Mizoram		1		0
Nagaland	5		3	
Tripura	-		-	
Maharashtra		853		3733
Andhra Pradesh		377		1172

Source : The Report of the Group on Industrial Development of the

Assistance sanctioned by the following institutions : IDBI, IFCI, ICICI, LIC, GIC, IRBI, SFCs and SIDCs, is represented state wise and for three points of time in along with the respective per capita sanctions (Table 8.13).

**Table 8.13**  
**Cummulative Assistance Sanctioned by Non-Bank Financial Institutions**

	Rs. crore			Per Capita Sanction (Rs.)		
	1981	1985	1993	1981	1985	1993
Arunachal Pradesh	-	-	21	-	-	236
Assam	112	231	910	51	115	388
Manipur	2	4	52	7	18	272
Meghalaya	14	23	95	99	114	513
Mizoram	-	-	41	-	-	562
Nagaland	9	15	52	77	154	402
Tripura	6	12	42	20	61	146
NER	143	285	1213			
All India	11,455	25,586	149,446	168	336	1704

Source : CMIE, Basic Statistics, States, September, 1994.

The trend of investments of the major non-bank financial institutions has not been, at all, encouraging for the north eastern region. While the region received a lowly share of 1.25 percent of the all-India assistance in 1981, a trend of assistance going against the region seems to have started operating, with the share decreasing to 1.11 percent in 1985 and falling to less than one percent by 1993.

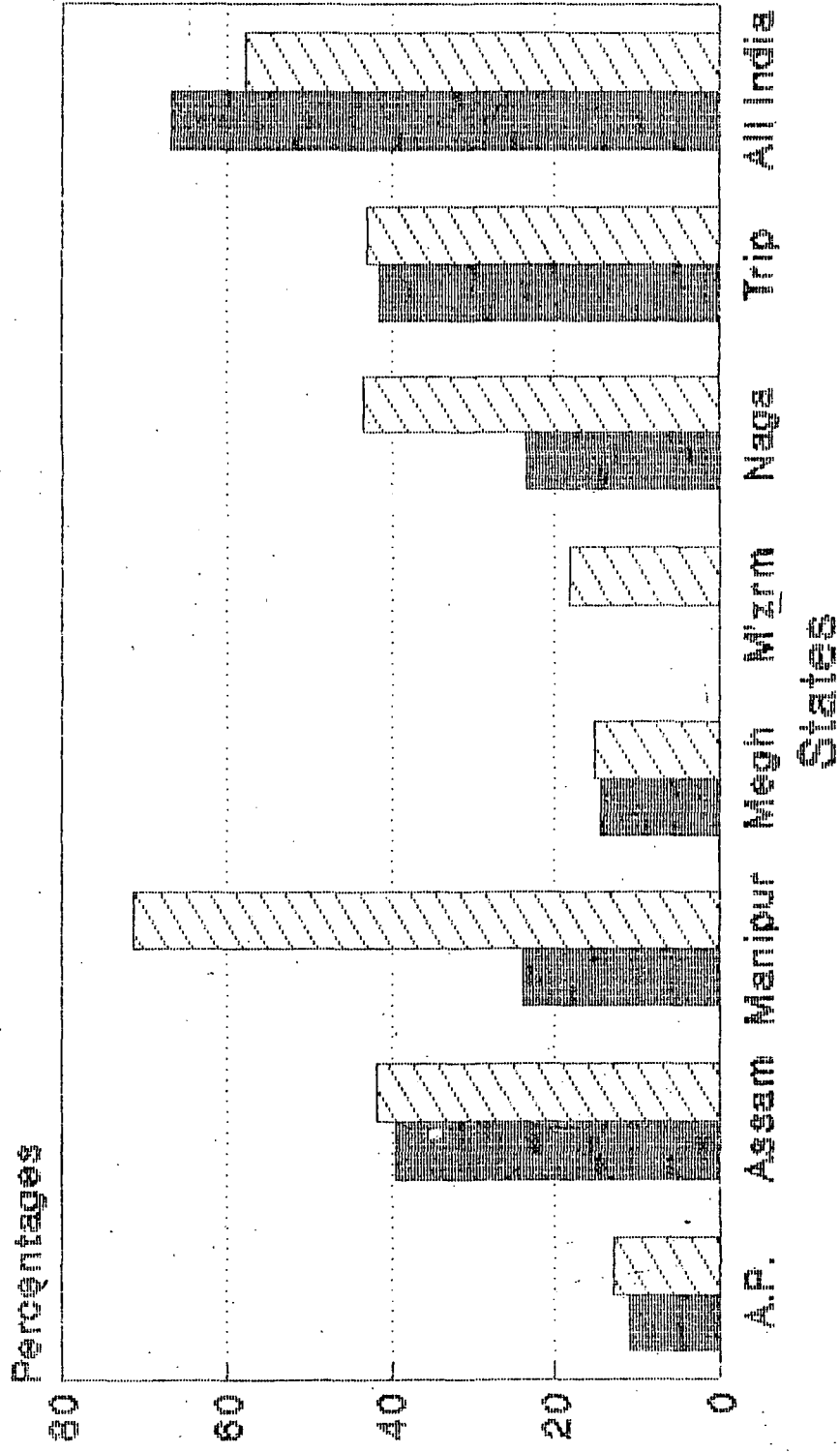
On the other hand over 50 percent went to the more industrialized states of Maharashtra, Gujarat, Tamil Nadu and Andhra Pradesh.<sup>43</sup> An approach of avoiding much sanction of funds is apparent when the per capita assistance is considered. One would have expected sanctions by this yardstick to have been at least moderately high, given the small base population of the region, but this is not the case. In terms of another indicator of the impact of financial indicators the credit-deposit ratio of public sector banks is considered (Table 8.14).

**Table 8.14**  
**Credit Deposit Ratios**

	C.D. Ratios (Percentage)	
	June 1980	March 1994
Arunachal Pradesh	11.1	12.7
Assam	39.4	41.8
Manipur	23.8	71.3
Meghalaya	14.3	15.3
Mizoram	-	18.1
Nagaland	23.5	43.4
Tripura	41.4	43
All India	66.9	57.5

Source : CMIE, Basic Statistics, September, 1994.

# Credit Deposit Ratios



 1980
  1994

A low C.D. ratio is evident in 6 states of the region, barring Manipur. This is partly due to the low level of industrial development in the region, and often Banks are unwilling to offer loans in the face of poor recovery rates. Problems of insurgency have not helped. The low industrial base means that mostly government sectors and retail/business outlets draw most of the loans, whereas "safe loans" to industrial ventures are quite small. The lack of a class of local entrepreneurs in the region - barring Assam where in the <sup>a</sup> post 15 to 20 years such a first generation class has developed, has also kept credits partially depressed. However in the post liberalisation era, the development/growth of commercial banking and not development banking seems to have taken root in the region. Commercial banking seeks repayment of loans for banks to be viable entities, and if the risk factor is high or so perceived, loan disbursements stay low. Since the banker is liable to be pulled up by the management in the face of non-recovery of loans, they have been reluctant to advance loans. The parameters of commercial banking have clearly brought no great fruits to the region. This is a need for development banking in the region and the North East Development Bank at Guwahati is a positive step in this direction. However until it takes root, the fact remains that substantial funds are being drained from the already capital/resource poor region. One source, the National Federation of State Cooperative Banks (NFSCOB) holds that more than Rs. 2000 crores from total bank deposits in the North

Eastern Region find their way out as credit outflow to other regions of the country<sup>44</sup>

From the foregoing analysis of the impact of policies of the Central Government to remove inter-state disparities the effect on the NER does not show any encouraging trends. The policy measures have been present but the results have not been forthcoming. Under the plans assistance has been quite generous but the allocations by themselves have not been able to raise the region from the low base level of development.

The devolutions of the Finance Commissions have in no way been progressive for the region ~~insofar~~ as income tax sharing was concerned and only slightly progressive in terms of union excise duties sharing. The awards of the Finance Commissions being quite small, they have had little impact on bridging regional disparities between the north east and the rest of the country. Other instruments of bridging regional disparities reviewed in this chapter have also not produced the desired results only marginal effects have resulted. The Central Investment Subsidy Scheme reimbursed barely an amount equal to the region's share of the country area, though the performance of the Transport Subsidy Scheme fared better, at least for Assam. Yet some changes in that scheme are needed if the rest of the states are to benefit as well. Industrial dispersal has hardly occurred and the contribution of the region to the country's total industrial output is less than 2 percent as per ASI data;

for various reasons the credit position of commercial banks has been poor while the response by non-bank financial institutions has worsened over the past two decades and is quite dismal. The position of the region against the backdrop of the all India norm leaves much to be achieved. The era of liberalisation seems to have by passed the region and if foreign investments (direct) are anything to go by<sup>45</sup> the position of the north eastern region could go from bad to worse.

Nonetheless the fact remains that the NER has been treated as a backward region, along with other hill areas of the country, and has received preferential treatment. While funds have flowed in, the results have not been forthcoming. Among the seven states, the most developed state Assam, has apportioned the maximum benefits. Nonetheless even Assam remains a dwarf in terms of the industrial indicators used in this chapter, compared to the all India averages, not to speak of the remaining states.

Yet the region has not been benefited significantly. It still contributes less than 2 percent to the country's industrial output, possesses less than 2 percent of the country's registered factories and fares no better in terms of employees. Regional disparities in terms of location of CPSU, appear to have continued and a trend towards accentuation of such differences, seen in terms of investment proposals in the post liberalisation era, is apparent.

While it is true that Central Government policies have tried to enhance development levels in the region, it is equally true that these policies have not borne much fruit. Does this mean that the quantum of funds pumped into the region needs to be increased ? Increased investments need not necessarily bring about economic development and a trend towards achieving regional inequalities and bringing about parity, in such terms, between the NER and the rest of the country. Certainly this has not been the case in the past two decades, and such a trend would seem overly simplistic and very unlikely. What sort of changes would be desirable ? Certainly the region had remained a lagging behind area, though not "underdeveloped" in Frankian terms. If some sort of bridging the gap vis-a-vis the rest of the country can be considered as 'development' then a need for additional or alternative preferential policies<sup>46</sup>, along with the current favourable allocations, are called for since an increased quantum of funds alone are not sufficient to bridge regional gaps. Although prescribing such measures are beyond the scope of this study, the necessity of alternative and additional policy can hardly be overemphasized. In this connection, it is not out of place to note the suggestions to put up to an expert group:

It was suggested that because of the locational advantages of the region, and due to its being distant from the markets and also the absence of raw materials, it should be considered the most backward area of the country.... comparatively the other backward areas of the country are better located and the cost of

plant, machinery, their installation, and the marketing of produce were lower. The apprehension was that unless some overriding incentives are given, specific only to the North Eastern Region; entrepreneurs would not make investments in the region<sup>47</sup>

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1. The Directive Principles of State Policy of the Indian Constitution point in this direction.
2. Planning Commission, Second Five Year Plan, p. 246.
3. Ibid., p. 36.
4. Planning Commission, Third Five Year Plan, pp. 143-144.
5. Ibid., p. 147.
6. Ibid., p. 148.
7. Ibid., p. 153.
8. Ibid., p. 151.
9. Datta Ray, B. (1994), "Development in North East India : Historical Perspective", IASSI Quarterly, 12, 3 & 4, Jan.-June, p. 84.
10. Ibid., p. 85.
11. Chand, M. and Puri, V.K. (1983), "Regional Planning in India", Allied, New Delhi, pp. 399-400.
12. Gupta, S.P. (1989), "Planning and Development in India", Allied, New Delhi, p. 249.
13. Hanson, A.H. (1968), "Process of Planning", OUP, London, p.321.
14. Nair, K.R.G. (1983), Regional Experience in a Developing Economy, Wiley Eastern, New Delhi, p. 137.
15. Gupta (1989), op.cit., p. 249. See footnote 1.
16. Region.
17. Report of the First Finance Commission, 1952, Chapter 1, para 22.

18. Govinda Rao, M. (1977), Federal Fiscal Transfer in India, EPW, XII, July 30, p. 1229.
19. Nair, K.R.G. (1983), op.cit., p. 127, see footnote 6.
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22. Shukla, P.R. and Roy Choudhury, S.K. (1992), "Centre-State Finances in Indian Economy", Akashdeep Publishing House, New Delhi, p. 119.
23. Krishna, Raj (1978), Note of Dissent, Report on the Seventh Finance Commission, p. 150.
24. Shukla, P.R. and Roy Choudhury, S.K. (1992), op.cit., p. 118.
25. Guhan, S. (1996), op.cit., p. 887.
26. First Five Year Plan, p. 442, para 49. As quoted from Report on Industrial Dispersal, National Committee on Development of Backward Areas, Planning Commission, 1980.
27. Industrial Resolution Policy 1956, para 15, in National Industrial Policy, Lok Sabha Secretariat, New Delhi, 1989, Appendix I.

"In order that industrialization may benefit the economy of the country as a whole, it is important that disparities in levels of development between different regions should be progressively reduced. The lack of industries in different parts of the country is very often determined by factors such as the availability of the necessary raw materials or other natural resources. A concentration of industries in certain areas has also been due to the ready availability of power, water supply and transport facilities which have been developed there. It is one of the aims of national planning to ensure that these facilities are steadily made available to areas which are at present lagging behind industrially or where there is greater need for providing opportunities for employment, provided the location is otherwise suitable. Only by securing a balanced and coordinated development of the industrial and the agricultural economy in each region, can the entire country attain higher standards of living".

28. National Industrial Policy, 1989, *ibid.*, Appendix II, para 4.
29. *Ibid.*, p. 6.
30. *Ibid.*, p. 15. At present the CIS Scheme has been withdrawn, while the TS Scheme continues.
31. *Ibid.*
32. *Ibid.*
33. *Ibid.*
34. In a 4 crore project the Central subsidy would be Rs. 2 crores, while the balance could be either from their own funds or from IDBI loans. Further, construction of sheds not exceeding one fourth of the total amount were allowed.
35. National Industrial Policy, *op.cit.*, p. 17.
36. The Report of the Group on Industrial Development of the North Eastern Region Including Sikkim and the Andaman & Nicobar Islands, Ministry of Finance, GOI, 1995, p. 27.
37. Chand, M. and Puri, V.K. (1983), *op.cit.*, p. 203.
38. Dutt, R. and Sundharam, K.P.M. (1991), *Indian Economy*, S. Chand & Co., New Delhi, p. 371.
39. Mitra, Asok (1965), *Levels of Regional Development in India*, Census of India, New Delhi.
40. The Bureau of Public Enterprises of the Government of India publishes annually a report on the functioning of Industrial and Commercial undertakings of the Central Government, excluding Departmental Undertakings like railways, P & T and Banking/Financial Institutions.
41. The Report of the Group on Industrial Development of the North Eastern Region, GOI, 1995, p. 37.
42. Chand, M. and Puri, V.K. (1983), *op.cit.*, pp. 208-209.
43. CMIE, *Basic Statistics : States*, September, 1994.
44. As reported in a press release, See Assam tribune, 20th March, 1996.

45. During 1993-94 out of the Foreign Direct Investments Approved for the country to the tune of Rs. 6767 crores, Assam, the leading industrial state of the region could get an investment of only Rs. 0.3 crores. See The Statistical Outline of India, 1994-95, Tata Services Ltd., Bombay.
46. GOI (1995), op.cit., pp. 129-130.
47. These could relate to improving the agro base, since by food imports alone the region incurs massive outflow of funds. The NER (including Sikkim) imported foodgrain at an annual rate of Rs. 690 crores between 1986-87 and 1994-95; see GOI (1995) *ibid.*, p. 99. Even basic commodities are an area of concern, since the industrial base of the region is such that almost all items are imported, leading to an outflow of resources from the region.

## II.

1. A literature survey is a survey of the field in which the researcher intends to focus upon. It is intended to serve a number of purposes : to take a view of the existing theories in that field or sub-field, to assimilate and integrate the discourses in that area, to be a sort of reconnaissance in which the validity of existing theories are weighed in the light of the new problem and finally it enables the researcher to develop a conceptual mooring.
  
2. Underdevelopment is not an original condition, nor is it a stage in development. Rather, as the dependency school holds, it was due to the machinations of capitalism that relatively developed nations were able to develop at the cost of the less developed, feudalistic or precapitalist countries using imperialism backed by superior military strength. Development and underdevelopment are thus related aspects of a single world economy in which the countries at differing levels of development interact on an unequal basis. Some scholars, like Gunder Frank and Hechter hold that such structures of dependency exist not only at international levels but also at sub-national levels.
  
3. While literature on dependency, internal colonialism and export base are numerous, limited literature in context of the NER is available.

### III.

1. Development is a complex phenomena with multidimensional facets that requires analysis by a reasonably large number of relevant indicators. To ascertain levels of development in the region twenty one indicators at the district level were chosen and grouped in two stages. First, four sectors were identified : resource base, infrastructure, agriculture and industry, accordingly the indicators were grouped. At the second level the indicators were grouped into three sector depending on their reflecting potentials for development, the process of development and the result of development.
  
2. Among the various methods available for amalgamating the values of indicators the composite index based on principal component analysis, which assigns higher weightages for higher correlations was preferred. Accordingly levels of sectoral and overall development and those relating to the potential, process and result of development were identified.
  
3. State level data for the economy were analysed at two points of time, a first reference point in the 1970s and a second during the early 1990s. Agriculture, occupational structure, infrastructure and the industrial base, their nature and changes over the two time periods were considered. Regional level data for three regional export sectors of the economy,

viz. petroleum & natural gas, tea and forests, were analysed in the context of the export base theory.

#### IV.

1. Prior to the coming of the British in 1826 the regional economy was barely monetized, dominated by barter and the small volume of trade that existed was not an integrated one between the hills and the plains, due to a combination of several factors : limited accessibility offered by the difficult terrain; the poor linkages that existed; low populations base; and a non-existent industrial sector necessitating marginal spatial interaction.
2. British interests caused dramatic changes in the regional economy and nothing typified this impact as much as the genesis, evolution and growth of tea industry with which the regional economy became inseparably and symbiotically linked. A virtual revolution in the advent of transport - particularly railways - changes in the demographic structure, changes in the land revenue system and in the pattern of trade resulted. The colonial administration was geared to the needs of the tea industry, and import of labour, raising the land revenue rate catastrophically and thereby pauperising the peasantry, aligning transport lines to suit tea gardens were some ways in which tea 'governed' the regional economy.

3. British mercantile interests pumped in money and monetized the economy; although these initial investments were more than amply compensated for, by the throw-away prices of land and revenue concessions in land the plantations enjoyed and only a small part of the total investments were supplied by Britain's home savings. A flow of profits from tea estates in Assam to the mother country resulted.
  
4. While the impact of the British mercantile interests permeated into the very fabric of Assamese economy, it had a marginal impact on the peripheral hill areas where the impacts of improved transportation and diversified trade were hardly felt. In fact colonial interests in the hills were purely strategic and administrative.
  
5. The regional economy centered around the extractive primary products led export sector was distinguished by a dualism between the plantation sector in pockets of upper Assam and a traditional agrarian base in the rest of the region.

V.

1. A structure is a pattern or an observable uniformity in terms of which action takes place and the structure of a system deals with the interrelationships among its different components. When considering the regional economic structure of the NER the components of agriculture, industry,

occupational structure and infrastructure - both physical and financial - require consideration.

2. During the 1970s when the states of the region were more or less the administration entities as recognised today, when the states and the NER are compared in terms of agricultural parameters with the all India norm, the wide disparities are apparent. In spite of the region's economic backbone being agriculture, it lags far behind all India aggregates due to a combination of socio-cultural and physical constraints.
3. At a broad level the hills and plains can be differentiated in terms of area under HYV crops, wherein Assam accounts for most of the acreage, though such distinctions are not possible in fertiliser consumption, where the entire region is way below the national norm. Likewise proportion of irrigated area is barely 2.3 percent of the country's total, much of which lies in Assam. Given such circumstances, the yields of rice - the most important crop - remained in the 70s, much below all India averages.
4. The industrial sector during the same time, much like the agriculture sector, both in the SSI sector and the large sector, contributed very little to the national industrial scenario. The region accounted for 1.9 percent of working units, 0.1 percent value output, 1.4 percent of value added and 1.6 percent of employment of the national total in the

SSI sector, while in the large sector, Assam and to a lesser extent Tripura dominated regionally with tea processing units prevailing. The predominance of tea was a colonial legacy.

5. The occupational structure, with almost four fifths in the primary sector, was like the larger developing Indian entity. Yet unlike the national scenario which had almost 10 percent in the secondary activities, the NER had only 4 percent in this important area. Only Manipur has some semblance of a secondary sector employment, due to a well developed HHI sector, while Arunachal Pradesh, Mizoram and Nagaland were non-entities in this sector.
6. The importance of infrastructural facilities can hardly be emphasized in a developing or dependent economy. However, in terms of physical infrastructure - roads, railways, power and financial infrastructure the region fared extremely poorly. This was inspite of massive potential in the hydro power sector.
7. During the early 1990s as well, the region's agricultural sector was the most important one accounting for 64 percent of the workforce. At the state level advances in agriculture were noticable-improvements in the acreage under HYVs, increase in sown area and improvements in fertilizer consumption. However, three trends were unmistakable : Assam

dominated the regional scenario, the region's contribution to the national total was still quite nominal and the rates of increase over the '70s were slower compared to the all India advances. The good performance of states like Manipur and Tripura in some respects - rice productivity for one - notwithstanding, the region's agricultural base remained a poor cousin to its national counterpart.

8. In the industrial sector, the region's contribution to the national total continued to be below 2 percent, both in the large and small sector. This trend exhibited no shift from the 1970s position.
9. In terms of occupational structure the 1970s picture continued with the bulk of the population in the primary sector, a small secondary sector with 4 percent of the workforce compared to 10 percent at all India level, and nearly one quarter in the tertiary sector. Only Manipur was slightly well placed in the secondary sector.
10. Earlier studies on per capita income in the region have shown increasing trends of poverty between 1957-1974 and 1980-81 to 1989-90. Present trends show 6 of the region's states faring marginally poorer than the all India average. While Assam showed a negative differential of Rs. 425 to Rs. 583, at the other end Arunachal Pradesh had a positive differential of Rs. 64 to Rs. 268 in the last decade.

11. The infrastructural base continued to be poor. Roads, railways, power consumption and financial infrastructure remained far below national standards, although in specific cases Assam and Manipur had made significant advances.
12. All in all the regional economy showed little changes in the past two decades. In several ways it represented a stunted development with characteristics of an underdeveloped economy possessing retarded industrialization, geared toward 'light engineering activity' and a supplier of raw materials and primary produce.

## VI.

1. In ascertaining levels of development, a sectoral approach in determining levels of development in terms of the resource, agricultural, infrastructural and industrial base of the region is adopted. The overall development shows the combined scores of these four areas.
2. In the regional resource levels a broad distinction between the hills and plains is possible with the latter better planned. This is partly due to the emphasis of the indicators on human resources, and less so on physical ones due to data constraints.
3. Apart from a handful of districts the bulk fall in the lower levels of agricultural development. The relatively better

position of state capital possessing districts highlights the importance of institutional factors in agro-development. The role of physical factors remains unclear, playing a constricting role here and no such role elsewhere. Important tea growing districts seem to have low agricultural levels.

4. Among infrastructural levels, state capital possessing districts are better placed, five of these falling in the two highest levels. Population concentration and administrative importance appear to be important factors that influence infrastructural levels. Garo and Jaintia Hills, several districts of Arunachal Pradesh and 4 districts of Manipur exhibit low levels.
5. A mixed scenario in industrial levels exists. No apparent distinction between the hills and plains is possible. However, only 7 districts are well developed and the remaining in the low levels. This seems to point to an internal uniformity of generally low levels, and considering the gap in industrial levels vis-a-vis the rest of the country, a uniformity in backwardness seems valid.
6. In the overall levels of development, state capital possessing districts, more than industrial or other factors appear to influence development, pointing to an induced sort of development, led by administrative considerations more than anything else. Two areas of high levels districts

concentrated around Dibrugarh and Cachar exist, of which the former represents the colonial legacy. Generally low levels persist, while the 'drag' of physical constraints appears strong, the 'push' of industrial/developmental impetuses are weak.

7. Districts are considered in terms of the results of development, indicative of the on-going process of development and as reflecting potential for development. The spatial spread of districts that have been able to benefit from the developmental process are limited to areas of administrative importance, while peripheral hill districts, as distinct from more centrally located hills, appear to lag behind. In terms of the process of development, the districts of Arunachal exhibit the maximum thrust attributable to the low base level from which these districts have progressed. In gauging the potentials for development apart from 5 districts, which are either state capitals or colonially important areas both reflective of induced development, the remaining districts show low levels of potential.

## VII.

1. The NER since colonial times developed an export sector that was sustained by external demand. Tea, petroleum, and forest products were the main regional exports and these three

sectors have been analysed in the export base theory's framework.

2. In the petroleum sector Assam was the sole producer between 1901 to 1961 and until Bombay High started production in 1976, it accounted for over 50 percent of India's oil production. Presently Assam produces only 15 percent of the country's production and possesses along with Nagaland over 19 percent of India's proven and recoverable crude oil reserves, with the former accounting for about 47 percent of the country's onshore reserves.
3. Considering the importance of Assam, and of late Nagaland, Tripura and Arunachal Pradesh as well, in the petroleum sector the development of refining capacity and associated industries particularly petrochemicals has remained rather stunted. The capacity of the 3 refineries in Assam are only 5.2 percent of the country's total and the 3 refineries together have a lower refining capacity than the Barauni refinery, the location of which was a political decision that went against the interest of the regional economy.
4. The region possesses almost a fifth of the country's proven and recoverable natural gas reserves and produces about 13 percent of India's natural gas. However, current methods of utilization are quite wasteful with almost a third being flared compared to 11 percent flaring in Gujarat. In value

terms the excess flaring over Gujarat's ratio from 1970-71 to 1992-93 amounts to a loss of Rs. 2000 per 1000 cubic meter or about Rs. 1876 crores. At a base price of Rs. 2500 per 1000 cu. metres this would be about Rs. 2345 crores worth of flaring.

5. Natural gas flaring could have been reduced by transporting the gas to other areas of the country, setting up gas based plants for power generation or using it as a feedstock for a variety of petrochemical industries. These could have had significant multiplier effects or a "residential effect" on the regional economy.
6. The tea industry of Assam produces about Rs. 2100 crores worth of tea, or over 396 million kilos from its 848 estates spread over 203,363 hectares which is about 55 percent of the country's total and accounts for 65 percent of India's tea exports.
7. Untill the GTAC was opened in 1970 Assam's tea was marketed outside the region. Thereafter along with the GTAC's growth as the largest CTC tea auction centre in the world there developed warehousing, marketing, financial and brokerage services, export finance and transport services. However, the industry did not bring much succor to the region and the sons of the soil. The Tea Board headquarters and head offices of private companies were located outside the region

due to historical factors. While the former governs funding of projects and grants, the location of tea companies elsewhere implied that the benefits of taxes paid by the private companies and TDS did not accrue to Assam. While Assam earns Rs. 35 crores annually as revenue, West Bengal where the head offices are located, earns Rs. 87 crores annually.

8. Head offices of tea companies located elsewhere has not helped the cause of middle and junior level managerial employment to the sons of the soil. The industry earned handsome profits, Rs. 1386 crores in 1989, but reinvestes little in the state and in many ways fits into a colonial mode of extraction of resources.
9. As an industrial group tea is one of the more profitable ones and tea companies make large profits that are repatriated outside the NER. Beyond the initial investments few growth effects have been set off by this industry apart from the low wages paid to wage labourers and a handful of clerical and middle level managerial staff.
10. The NER with its monsoonal climate and hilly terrain supports dense forests and a luxuriant vegetation cover. Under British rule these forests were exploited during the expansion of the railway network in the country. Currently

forest products are being sent out of the region by roads, railways and waterways.

11. Regarding export by roads, it is estimated that 264,928 tonnes of timber and timber products is legally exported from the region. This is based on export of 4355 tonnes over a 6 day period in 1987-88. However, on the basis of primary data sources, 7134 cu. m. or 251,978 cft. was exported over a 7 day period in 1995. Projected annually, at a rate of Rs. 250 per cft. Rs. 327 crores worth of timber is exported, or Rs. 262 crores at Rs. 200 per cft., from the Srirampur gate alone. Including Boxirhat the exit would be worth anything between Rs. 400 to Rs. 450 crores.
12. Trade in teakwood by river and rail shows that the NER was a net exporter of 59,930 quintals and accounted for over 85 percent of the national internal trade in teak during 1993-94. Assam alone accounted for almost 76 percent of the country's internal teak trade, followed by Nagaland and Tripura. Further a major portion, 82 percent, of the NER's teak exports found its way to the Gujarat ports, possibly for foreign markets.
13. Similar trends existed for regional export of other timber with the NER providing almost 73 percent of the country's internal trade in such timber. Assam dominated, followed by

Nagaland, Tripura and Meghalaya. New Delhi, Gujarat ports and Haryana were important destinations.

14. Considering roads, railways and river borne trade of timber an export of timber worth between Rs. 856 crores (at Rs. 200 per cft.) to Rs. 1069 crores (at Rs. 250 per cft.) is taking place annually.
15. Petroleum and forest products are being exported from the NER without the residentiary effects of the export base theory occurring and the profits accruing from an extractive utilisation of these three resources have not had any significant impact on the economy. Partly this is explained by the control of these sectors in the hands of the government, which has inhibited the free play of market forces that the export base theory presupposes. Nonetheless other factors such as lack of political will at the central and well as regional level, lack of entrepreneurial spirit among the local population, overall low level of local demand coupled with the low level of industrial base have also combined to inhibit any residentiary effects.
16. In the petroleum industry, with much of the crude refined outside the region scope for ancilliary development, as in Gujarat, was inhibited. Utilisation of natural gas along less wasteful lines could have had partially, if not substantially, greater impacts on the regional economy. Tea

as a industry has limited linkage effects, but even these did not take place. Instead, a siphoning out of profits resulted. In toto, a failure of the export base route to development, more than its applicability in context of the region, was the result.

#### VIII.

1. The attempt to bridge regional disparities within the vast expanse of India has been a long cherished goal. Backward areas have been given special considerations. The impact of such policies on the NER is considered in terms of resource transfer through plans, transfer of revenue resources, special schemes, industrial dispersal policy and role of financial institutions.
2. Under the first three Plans, the region did not get much attention. Until this time no objective criteria allocating funds existed. Since the Fourth Plan, barring Assam, the other states have been favourably allocated resources under the SCS status. Considering the low base level of developmental activities and the prolonged neglect of these states, allocations to the NER under SCS status have not been enough to enable the region to catch up with the rest of the country.
3. Finance Commission devolutions to the region as a whole have not been really progressive; the income tax share were lower

than the region's population share of the country until the Eight Commission although as far as Union excise duties were concerned devolutions were quite favourable.

4. In the past 20 years the region received 7 percent out of the all India disbursements under the CIS scheme, of which Assam garnered the maximum. Under the TS scheme the region received 50 percent of the national disbursements. However the larger units apportioned much of the funds and against Assam benefitted at the cost of the other states.
5. Industrial dispersal schemes have been ineffective for the region. LOI and IL to No-industry and backward areas show that industrial enterprises do not prefer the NER. This trend continued in the post liberalisation era and a tendency of investment to 'avoid' the region has accentuated. The distribution assets of CPSU in the region is also not encouraging.
6. Financial institutions both non-bank and banking, have not had much positive effect in the region. The trend of investments of the former have been particularly discouraging, while in case of the latter, the low level of industrial development in the region among other factors has kept the C.D. ratio depressed in 6 of the 7 states of the region, with only Manipur faring well.

7. In toto, while central government policies have tried to enhance development in the region, the fact remains that these have not borne much fruit. The region continues to lag behind national levels and remains underdeveloped though not in the true Frankian sense.

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