CHAPTER V

ANALYSIS OF DATA
5.1. INTRODUCTION:

Transport involves movements of goods, merchandise and services from place where their marginal utility is less to places where their marginal utility is high. Thus transportation is a media of enhancing the marginal utilities of scarce economic resources to their desirable level. Hence it affects the productive and service sectors of the economy, which are ultimately influenced by customs, habit, traditions and the social organizations. The demand for transport is derived demand. Transport is demanded due to demand for goods and services in places it is in shortage. The level of production and consumption in a country in different sectors of the economy therefore decide the fortune of transport sector. Public administration, diversification of industries, mass literacy programmes and tourism and social activities has increased the demand for transport. The introduction of transport system opens up new avenues for investment of capital and labour and overall economic development of a country.

For the purpose of making transportation system very effective and economic, construction of roads, bridges, railway track and other related
constructions are also very important. It bears a part of economic, social and the industrial growth of a country. A sound networking system of transport for people to move across state/country to link the production and consumption centers which result in national integration, economic growth, and national defence socio technological development.

Assam possesses vast potentiality for generation of hydropower based on its available water, gas, coal and oil resources. Assam alone has 28 percent of total hydropower potential of the country, which remains under-utilized. Besides, gas is also available in plenty, which can also be a good source of power in Assam. But these have not been exploited as power resources of the state to the desired level. So Assam lags far behind the national average in the field of power development, which was already stated earlier.

This chapter presents the result of the study carried out to assessing the availability of transport and power infrastructure in the economy of Assam. The study has been carried out in railway, roadway, waterway and power facilities in Assam. The main participants in the study are businessman, officer and general public.

In measuring and judging the infrastructure facilities of transport and power sector in Assam, a questionnaire is prepared and sent to the
businessman, officer and general people. For the convenience of the respondents multiple answer supplied for the questions in the questionnaire.

5.2. QUESTIONNAIRE RESPONSE:

The table 5.1 presents in nutshell the information relating to the questionnaire sent and response received.

Table 5.1

<table>
<thead>
<tr>
<th>QUESTIONNAIRE RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Questionnaire sent</td>
</tr>
<tr>
<td>2. Questionnaire returned with all answer</td>
</tr>
<tr>
<td>3. Returned with partially filled up</td>
</tr>
<tr>
<td>4. No response</td>
</tr>
<tr>
<td>5. Response through personal interview</td>
</tr>
<tr>
<td>6. Total response for final analysis</td>
</tr>
<tr>
<td>200</td>
</tr>
<tr>
<td>105</td>
</tr>
<tr>
<td>15</td>
</tr>
<tr>
<td>80</td>
</tr>
<tr>
<td>40</td>
</tr>
<tr>
<td>160</td>
</tr>
</tbody>
</table>

5.3. CLASSIFICATION OF RESPONDENTS:

Table 5.2

CLASSIFICATION OF RESPONDENTS ACCORDING TO AGE

<table>
<thead>
<tr>
<th>Age in Years</th>
<th>No. of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 - 30</td>
<td>29 (18.1)</td>
</tr>
<tr>
<td>31 - 40</td>
<td>45 (28.1)</td>
</tr>
<tr>
<td>41 - 50</td>
<td>38 (23.8)</td>
</tr>
<tr>
<td>51 - 60</td>
<td>23 (14.4)</td>
</tr>
<tr>
<td>61 - 70</td>
<td>13 (8.1)</td>
</tr>
<tr>
<td>71 - 80</td>
<td>12 (7.5)</td>
</tr>
<tr>
<td></td>
<td>160 (100)</td>
</tr>
</tbody>
</table>

[Figure in bracket indicate percentage]
The participants were classified according to age as given in the table 5.2. The Table shows that maximum number of participants were in the age group of 31 – 40 and 41 – 50. The minimum number of participants was in the age group of 71 – 80 years.

The participants also classified according to their occupation. The table 5.3 shows the pattern of distribution of data in this category.

### Table 5.3

<table>
<thead>
<tr>
<th>Occupation</th>
<th>No. of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Businessman/Industrialist</td>
<td>55 (34.4)</td>
</tr>
<tr>
<td>Officer</td>
<td>25 (15.6)</td>
</tr>
<tr>
<td>General Public</td>
<td>80 (50.0)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>160 (100)</strong></td>
</tr>
</tbody>
</table>

It is observed from the table 5.3 that the general people were more than the officer and industrialist/businessman. Amongst the respondents maximum 50 percent i.e. 80 were general people and minimum 15.6 percent i.e. 25 were officers.

The areas which questionnaires were sent within the state of Assam and personnel interview are taken in Guwahati, Nalbari, Barpeta and Bangaigan, some are from head office of ASTC, ASEB, private transport operators – Blue hill, Network, Capital Travels, Royal Tour and Travels and
Blue in Travels headquarter at Paltanbazar, Guwahati. The majority of respondents were from Kamrup, Barpeta and Nalbari Districts.

5.4. TRANSPORT AND POWER PROBLEMS FACED IN RESPONDENTS' LOCALITY:

This study attempts to examine the transport and power problems in Assam. Basic question in this study is asked to examine the transport and power problems in respondents' locality. The response of participant's in this regard is as follows.

Table 5.4
TRANSPORT AND POWER PROBLEM FACED IN PARTICIPANTS LOCALITY

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>122 (76.2)</td>
</tr>
<tr>
<td>No</td>
<td>38 (23.8)</td>
</tr>
</tbody>
</table>

It is well observed from the Table 5.4 that transport and power problems are there in the respondents' locality. 76.2 percent of respondents opined that supply of power is irregular and transport facilities are inadequate.

After obtaining respondent's decision regarding problems of transport and power, the respondents asked to specify the nature of problems. 122 respondents opined that problems are of different types and different dimensions.
Table 5.5
RESPONDENTS RESPONSE REGARDING NATURE OF PROBLEMS

<table>
<thead>
<tr>
<th>Nature</th>
<th>No. of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>(a) In carrying goods</td>
<td>86 (70.5)</td>
</tr>
<tr>
<td>(b) In movement of passengers</td>
<td>97 (79.5)</td>
</tr>
<tr>
<td>(c) In supply of power</td>
<td>105 (86.05)</td>
</tr>
</tbody>
</table>

It is seen from the table 5.5 that 79.5 percent of respondents opined that they have faced problem in traveling different modes of transport and 70.5 percent of in carrying goods. It indicates that the problem in carrying passengers is higher than that of carrying goods. 86.05 percent of respondents faced problem in irregular supply of power and power driven works and industries are not fully utilized its rated capacity. Due to shortage of power the industrial activities suffered loss.

5.5. ADEQUACY OF POWER AND CLASSIFICATION OF RESPONDENTS:

105 respondents (as per table 5.5) response regarding short supply of power and are classified in table 5.6

Table 5.6
CLASSIFICATION OF RESPONDENTS, RESPONSE REGARDING INADEQUACY OF POWER

<table>
<thead>
<tr>
<th>Classification of Respondents</th>
<th>No. of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>General public</td>
<td>57 (54.3)</td>
</tr>
<tr>
<td>Businessman</td>
<td>33 (31.4)</td>
</tr>
<tr>
<td>Officer</td>
<td>15 (14.3)</td>
</tr>
<tr>
<td></td>
<td>105 (100)</td>
</tr>
</tbody>
</table>
It is observed from the table 5.6 that 54.3% of general people, 31.4% of businessman and 14.3% of officer opined that supply of power is irregular in Assam. Students, patients at hospital and other general people had to bear the brunt of unscheduled power cut. The students at night hour remain idle due to shortage of power. It is acute in the rural areas. The print and electronic media, banks and financial institutions were also badly affected due to shortage of power.

Filed survey reveals that due to irregular supply of power Hindustan Paper Corporation, Jagiroad does not depend on ASEB's supply of power. They use their own generating machine in manufacturing center and administrative block. Only in residential areas of employees the corporation use ASEB’s power.

5.6. PREFERENCE OF TRANSPORT:

Preference regarding mode of transport the following preference were obtained from the respondents.

<table>
<thead>
<tr>
<th>Mode of transport</th>
<th>No. of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roadway</td>
<td>102 (63.8)</td>
</tr>
<tr>
<td>Railway</td>
<td>48 (30.6)</td>
</tr>
<tr>
<td>Airway</td>
<td>6 (3.1)</td>
</tr>
<tr>
<td>Water way</td>
<td>4 (2.5)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>160 (100)</strong></td>
</tr>
</tbody>
</table>
It is observed from the table 5.7 that majority of respondents i.e. 63.8% preferred roadway. It indicates that roadway is more popular mode of transport in Assam. But the existing roads in Assam are not at all conducive to operate a smooth and efficient road transports system. 33.1% of respondents were giving their preference to railway 3.1 and 2.5% of responds preferring airway and waterway.

After obtaining the respondents preference regarding mode of transport, respondents also asked the reasons for their preference.

Table 5.8

ANALYSIS OF REASON FOR CHOOSING ROADWAY

<table>
<thead>
<tr>
<th>Reasons</th>
<th>No. of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low cost</td>
<td>7 (6.9)</td>
</tr>
<tr>
<td>Fast moving</td>
<td>11 (10.7)</td>
</tr>
<tr>
<td>Easy to travel</td>
<td>31 (30.4)</td>
</tr>
<tr>
<td>More secured</td>
<td>12 (11.8)</td>
</tr>
<tr>
<td>Door to door service</td>
<td>41 (40.2)</td>
</tr>
<tr>
<td></td>
<td>102 (100)</td>
</tr>
</tbody>
</table>

[Total number of respondents for choosing roadway is 102 as per table 5.7]

Table 5.8 shows that majority i.e. 40.2 % of respondents’ preferring roadway due to its door-to-door service facility. 30.4 percent of respondents
were giving their preference to roadway, as roadway is easily available. 11.8% of respondents preferring roadway for its security, 10.7% of respondents preferring roadway due to its fast moving facility and 6.9% of respondents preferring roadway due to low cost. Observing the above analysis it can be said that door-to-door service facility provided by road transport i.e. bus, taxi, and other traffic vehicles are very important.

### Table 5.9

<table>
<thead>
<tr>
<th>Reasons</th>
<th>No. of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low cost</td>
<td>10 (20.8)</td>
</tr>
<tr>
<td>Fast moving</td>
<td>7 (14.6)</td>
</tr>
<tr>
<td>Easy to travel</td>
<td>12 (25.0)</td>
</tr>
<tr>
<td>More secured</td>
<td>19 (39.6)</td>
</tr>
</tbody>
</table>

48 (100)

[Total number of respondents for choosing railway is 48 as per table 5.7]

Table 5.9 shows that majority of the respondents i.e. 39.6 percent were preferred railway as the railway transport is more secured. 25.0 percent of respondents giving their preference for it’s convenient transport facility. 20.8 percent preferring for its low cost and 14.6 percent preferring railway due to its fast moving facility. It indicates that security is one of the most
important facilities and there is no door-to-door service facility in railway as per the opinion of the respondents.

5.7. IMPORTANCE OF TRANSPORT AND POWER:

Transport and power are the important factors to the economy of a country. Questions were asked to the respondents to examine the importance of transport and power sectors to the economy of Assam and respondents’ response as follows.

Table 5.10

RESPONDENTS’ RESPONSE WHETHER TRANSPORT AND POWER ARE IMPORTANT FACTOR FOR ECONOMIC DEVELOPMENT OF ASSAM.

<table>
<thead>
<tr>
<th>No. of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>132 (82.5)</td>
</tr>
<tr>
<td>No.</td>
</tr>
<tr>
<td>28 (17.5)</td>
</tr>
</tbody>
</table>

160 (100)

Table 5.10 shows that majority i.e. 82.5 percent of respondent opined that transport and power are important component for economic development of Assam. One of the major indicators of development of the region is the existence of high quality of transport network, availability of number of mechanized and motor transport, adequate service of railway, airway and shipping services as per the demand of users. So transport development is synonymous with economic growth. Well-knitted
transportation system enables the varied customers to transport their goods according to their own convenience and desire. Availability of transport and power promotes industrialisation, access to rural areas, vital linkage between production and consumption, key factor to link dispersed areas, provides mobility of labour and boost tourism industry.

5.7.a. Test of Significance:

To test the significance of transport and power in context to economic development the Z as the test of significance is applied. As evident from the Table 6.10 that 130 respondents out of 160 i.e. 82.5% of respondents opined that transport and power are the important components for economic development. The hypothesis to be tested is presented below.

There are 132 plus sign (i.e. component in favour of economic development) and 28 minus sign as against the total observation 160.

Null Hypothesis: \( H_0 \) - Transport and power sector do not create an enabling climate for development of various segments of the economy.

Alternative Hypothesis \( H_1 \) = Transport and power sectors create an enabling climate for development of various segment of the economy.

The value of Z can be worked out by using the formula-
\[ z = \frac{x - npo}{\sqrt{npo(1 - po)}} \]

where, \( Ho - P = \frac{1}{2}, H_1 - P = \frac{1}{2}, X = 132 \)

\( n = 160, P = \frac{1}{2} \)

\[ z = \frac{132 - 160 \times \frac{1}{2}}{\sqrt{160 \times \frac{1}{2} \left( 1 - \frac{1}{2} \right)}} \]

\[ = \frac{132 - 80}{\sqrt{160 \times \frac{1}{2} \times \frac{1}{2}}} \]

\[ = \frac{52}{\sqrt{40}} \]

\[ = 8.2 \]

Where \( x \) denotes number of cases reported component for economic development and \( n \) denote total numbers of cases reported.

Absolute value computed \( z \) is 8.2 which is greater than the value of tabulated \( z \) at 0.05 of significant (obtained from standard normal table)

This indicates that transport and power are the essential elements for economic development. This leads to rejection of null hypothesis.

5.8. PERFORMANCE OF ASEB:

Assam state Electricity Board is the sole agency to supply power in Assam. Question asked to the respondents to examine whether it could
discharge its responsibility properly or not, and the respondents’ response as follows.

**Table 5.11**

<table>
<thead>
<tr>
<th>RESPONSES RESPONSE WHETHER ASEB COULD DISCHARGE ITS RESPONSIBILITY?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No. of Respondents</strong></td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Table 5.11 indicates that 90.6% of the respondents opined that ASEB could not discharge its responsibility properly.

Being asked question to the respondents, they opined that:

1) Power failure has become a regular phenomenon of ASEB, Which indicate that ASEB has failed to discharge its responsibility properly.

2) Errors are there in the preparation electricity bill, which harassed the consumers at the time payment of bill. Consumes has to contact personally to ASEB office for rectification of the bill which is a kind of harassment.

3) The installed capacity of ASEB is 574 M.W. but it could generate only 60 to 80 M.W. of power. The Board procures the rest of the power from NHPC, NTPC and NEEPCO.
4) The 360 M.W., Amguri gas based thermal project was shelved in 1994, 240 M.W. Bangaigaon Thermal Power Station remained inoperative since 1991, 60 M.W., Chandrapur Thermal Power Station remain closed since 1999. But the ASEB or the Government of Assam has not yet taken proper action to operate the above projects.

5) Board has to depend always in other organization, which hampered the supply of power to consumers. To overcome the problem of power supply, reopening of inoperative projects is of utmost necessity. Moreover the Karbi Langpi Project initiated in 1979 has not yet completed after passing of 26 years.

6) To conclude it can be said that fault of management of ASEB, political interference in management, negligence of employees regarding satisfaction of consumers, non completion of power project within specified period are the main reasons for failure of ASEB in discharging its responsibility properly.

5.9. REORGANISATION OF ASEB:

The erstwhile ASEB is already reorganised with a view to remove the problems faced by ASEB. In this regard the respondents response were as follows:
Table 5.12

WHETHER REORGANISATION OF ASEB WOULD HELP TO OVERCOME

THE POWER CRISIS

<table>
<thead>
<tr>
<th>No. of Respondents</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>61 (38.1)</td>
</tr>
<tr>
<td>No.</td>
<td>99 (61.9)</td>
</tr>
<tr>
<td></td>
<td><strong>160 (100)</strong></td>
</tr>
</tbody>
</table>

Table 5.12 indicate that majority i.e. 61.9 percent of the respondents opined that reorganisation of ASEB would not help to overcome the power crisis in Assam.

The erstwhile ASEB has already been disintegrated into five companies such as generation, transmission and distribution in conformity with electricity bill 2003. It has been stated in law that with a view to providing quality electricity to the consumers at an affordable price, power sector reform has been undertaken by the Government. But people have not yet got any relief from unscheduled load shading or perennial under voltage problem. Therefore the reform process has become a blot form the blue print for the citizens and has defeated the vary purpose of reforms.

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The most important issue is in what ways the consumers will be benefited by the reform measures. Three important issues concerning the consumers are –

a) Whether the consumers would get adequate power of proper quality.

b) Whether the restructuring could ensure better services.

c) Whether the tariff rates would go up particularly if the distribution were privatized. These are crucially important issue concerning the consumers but the policy paper has not spelt out any clear-cut answer to these questions.

The respondents alleged that-

The reform process of ASEB has failed to deliver good. There are frequent power cuts day and night making life miserable. The power failure, particularly in the morning and evening hours, has affected badly the students and office goers adding to their woes.

The government in the name of reforms to improve the power position in the state has formed five companies each headed by an engineer not below the rank of a chief Engineer. But the power position has so far remained the same as it was prior to the reorganization of the ASEB. The top heavy ASEB has not been able to ensure uninterrupted power supply to the consumers of the Guwahati city, not to speak of the people in other towns,
sub urban and rural areas. It is also a better experience of respondents that when a telephone call is made to the complaint booth, the attendant simply does no convincing reply is given to compliment.

The recent experience in Orissa, Andhra Pradesh, the pioneer states in reform of power sector have frightened the consumers. Because in these states the stiff's hike in power tariff put unavoidable burden to consumers both domestic and industrial. The Orissa experience is educative. The unbundling of the board, under World Bank, Asian Development Bank assistance, was meant to produce low cost electricity. Instead, it led to doubling (or more) tariffs, endless disputes between gencoms, transcoms and discoms grid problems, revenue shortages and persistent, transmission losses. There were no efficiency improvements; tariffs were raised without the regulator's approval. Will the same experience be repeated in Assam after the initiation of reform measures?

It is doubtful whether the splitting of the Board into several companies will ensure efficiency at a time when ASEB has become a bankrupt organization incurring monthly loss of Rs. 25 crore and a massive liability of more than Rs. 3000 crore. Amazingly ASEB produces 140

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1. Praful Bidwai- Say 'no to Privatise Power'

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M.W., when peak hour demand is more than 400 M.W. despite the fact it has 574 M.W. installed capacity.

A minimum of 16% return on equity/investment has been envisaged without a clear policy how the return would come. This will raise the production cost to 5.11 percent against the present Rs. 3.96.²

The reform of ASEB has done only to get Rs. 2000 crore loan from the Asian Development Bank as alleged by the Employees Association of ASEB.

To conclude it can be said that it is not easy to overcome the power crisis only disintegrating the ASEB. Steps must be taken-

i) To enhance the production of power

ii) To stop the power theft, meter all electricity, and improve efficiency

iii) A cooperative effort should be there in between ASEB and workers union.

iv) We must give up our pre occupation with more and more supply and look up managing demand through conservation and low cost option.

The real issue in power is not ownership, but governance and democratic accountability.

² ASEB, Bijuli Bhawan
5.10. FARE STRUCTURE & FACILITY OF PRIVATE & PUBLIC CARRIER:

Private and public (ASTC) sector operators are running a large number of vehicles in Assam. Respondent’s response on above were as follows.

Table 5.13

RESPONDENTS RESPONSE ABOUT FARE STRUCTURE OF PRIVATE AND PUBLIC OPERATORS OF VEHICLES

<table>
<thead>
<tr>
<th>No. of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) The fare structure of ASTC is high 72 (45)</td>
</tr>
<tr>
<td>(b) The fare structure of Private services is high 88 (55)</td>
</tr>
<tr>
<td><strong>160 (100)</strong></td>
</tr>
</tbody>
</table>

Table 5.13 shows that fare structure of private operators are high majority i.e. 55 percent of respondents opined that the fare structure of private operators are high than ASTC.

Table 5.14

RESPONDENTS RESPONSE ABOUT THE FACILITY PROVIDED BY PRIVATE AND PUBLIC OPERATORS

<table>
<thead>
<tr>
<th>No. of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Facility provided by ASTC are below standard 53 (33.1)</td>
</tr>
<tr>
<td>(b) Facility provided by ASTC are standard 21 (13.1)</td>
</tr>
<tr>
<td>(c) Facility provided by private operators are below standard 34 (21.3)</td>
</tr>
<tr>
<td>(d) Facility provided by private operators are standard 52 (32.5)</td>
</tr>
<tr>
<td><strong>160 (100)</strong></td>
</tr>
</tbody>
</table>
Table 5.14 shows that 32.5 percent of respondents opined that facilities provided by the private operators are standard as against 13.1 percent of public operators. Again 21.3 percent of respondents opined that facilities provided by private operators are below standard as 33.1 percent in case of public operators. It indicates that facilities provided by private operators are good than public operators.

It can be said from the table 5.13 and 5.14 that fare structure of private operators are high and facilities provided by private operators also standard. Being asked questions on response through personal interview, majority of respondents opined that they need standard facility than the low rate of fare.

5.11. CONDITION OF NATIONAL & STATE HIGHWAY:

Questions asked to the respondents regarding condition of National & State highways in Assam and responses of respondents’ were as follows.

<table>
<thead>
<tr>
<th>TABLE 5.15</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESPONSES REGARDING THE DEPLORABLE CONDITION OF NATIONAL AND STATE HIGHWAY</td>
</tr>
<tr>
<td>No. of respondents</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>160 (100)</td>
</tr>
</tbody>
</table>

Table 5.15 indicates that majority of respondents i.e. 64.4 percent of respondents opined that condition of national and state highways are
deplorable in Assam. After observation it is found that devastating and recurring flood in Assam is one of the important causes of poor condition of road in Assam. State Public Works Department (P.W.D.) sources said that more than 3600 kilometers of road including national highway were damaged in 2004 wave of flood. According to records available with the public works department (Chief Engineer Office, Chandmari, Guwahati) 614 kilometers of national highway and 132 kilometers of state highway were damaged in 2004 flood.

The flood breaches as many as 196 on the road network, which include two major breaches on national highway and eight on state highway. Five big tributaries of Brahmaputra (Viz – The Sonkosh, The Manash, The Aai, The Beki and The Pagadia) cross the roads of different places. As such number of bridges have been constructed over the roads. During the rainy seasons when these rivers become turbulent, breaches occur in several points on roads in Assam. Assam has very narrow link with rest of the country. This bottleneck part of the vital links of state has made vulnerable to disruption with rest of the country and within the state. Because, any blockade due to flood or breaking of any of the bridges shows the danger for Assam being cut-off from the rest of the country.
The people of Assam are encountering poor riding quality on several stretches of National Highways in the State. Apart from causing difficulty for commuters, the dismal condition of National Highways has created hurdles in safe and speedy transport of goods to various parts of the North East. Regular wear and tear and damage caused by floodwaters have increased the vehicle operations cost (VOC) in the National Highways.

The National Highways in need of major maintenance and repair include 31C from Srirampur to Rakhaulubi, 31 from Rakhaububi to Jalukbari, 37 from Jalukbari to Nagaon, 36 from Nagaon to Doboka, 54 from Doboka to Silchar.

The Union Ministry of Shipping, Road Transport and Highways (MOSRT & H) handed over these stretches to NHAI in 2002 under the proposed East West Corridor Project. Since then, inadequate funds from the NHAI have it difficult for the P.W.D. to maintain these.³

According to well-placed sources in the Assam P.W.D., the total funds sanctioned for maintenance for a three-year period was Rs. 60.85 crore. The amount is far less than the required of Rs. 174 crore per year in accordance with the guidance of MOSRT & H.

³ Chief Engineer Office (R), Chandmari.
The NHAI has further been criticised for being slow in executing the East West Corridor Project. Since it started work in state, only about 20 Km. has been transformed into four lanes, which is 1.39 percent of the work, how it was supposed to complete by 2007. These indicate a poor progress of four lanning of National Highway in Assam.

**Observation of National Highway 52:**

Due to absence of adequate attention by respective authority the National Highway 52 connecting Baihata Chariali of Kamrup District and Jonai Sub-division of Dhemaji District turned bad to worst. Running through Kamrup, Darrang, Tezpur, Sonitpur, Lakhimpur and Dhemaji Districts. Though this portion of the road entrusted to Boarder Road Organisation, yet after completion of more than two years in 2004, the conditions have not been improved. Particularly the condition of road from Lakhimpur to Jonai about 100 Km of the NH 52, is very poor and unmotorable. In the name of development by the Boarder Road Organisation to ply somehow the vehicles from Lakhimpur, the organisation patching black topping here and there.

Above analysis indicate a poor condition of National and state Highway in Assam.
5.12. CONDITION OF LINKED ROAD IN ASSAM:

Questions asked to the respondents regarding condition of linked road in Assam and responses of respondents' were as follows.

Table 5.16
RESPONDENTS RESPONES REGARDING DEPLORABLE CONDITION OF LINKED ROADS IN ASSAM

<table>
<thead>
<tr>
<th>No. of respondents</th>
<th>Deplorable 139 (86.9)</th>
<th>Not deplorable 21 (13.1)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>160 (100)</td>
<td></td>
</tr>
</tbody>
</table>

Table 5.16 shows that majority i.e. 86.9 percent of respondents opined that condition of linked roads in Assam are poor. Being asked question to the respondents on personal interview, the reasons for poor condition of National and state Highways and linked roads, majority of respondents opined that absence of proper repair and maintenance for years together, heavy rain and recurring flood, absence of proper utilization of fund, corruption at different levels of works are the main reasons for poor condition of roads.

In this connection the researcher observed an area of Sipajhar and found that— the public of greater Hazarikapara area near Sipajhar have expressed resentment over the negligence of P.W.D. authority towards the development of Bordaulguri Borachuba P.W.D. road, which is the main link
road to NH. 52 and a portion of Maroi Monighat road from Puli Amartal to Mangaltirtha Kshetra, the venue of 68th session of Assam Sahitya Sabha.

The public themselves had repaired the road to some extent which is somehow not adequate. The Bordaulguri Borachuba road also becomes dilapidated. The last devastating flood 2004 also badly damaged the road. But nothing has been done by the P.W.D. for its development.

Another observation in greater Goreswar – The entire commuters falling under the Bhutan boarder area including Uparkhuti Bongalipara, Oubari, Suwagpur, Naokata of Defeli Mauza in Bagsa District under BTAD are i.e. belonging to the three legislative assembly constituency - Tamulpur, Rangia and Kamalpur have strong resentment over pathetic state of Baihata Chariali – Goreswar – Sukla P.W.D. road.

It is alleged that this main P.W.D. road, which is linked with other parts of the state, has not been repaired for last several years in spite of repeated appeal to the authorities concerned.

The worst portion of the road runs from Gasbari to Mukundapur (around 15 Km.) and also from Maharipara to Uparkhuti Bholajhar (20 Km.). These two section are full of big path holes which makes the road totally non motorable. All kinds of vehicles have to stop during the rainy
season leaving the public of the entire North Kamrup and BAGSA Districts are in helpless state.

Similarly the non-black – topped portion of this road from the said portion are full of big path holes. While in dry season (from October to March) the road is covered with full dust. This results in the public as well as commuters having to suffer a lot of problems in this communication. The commuters of public buses, trekkers as well as pedestrians are covered with dust. The people have alleged that government has totally failed to keep the infrastructure of the state in a good condition and has turned a deaf-ear to the repeated demand of the public in this regard. These are some of the examples of pathetic condition of link roads, which indicate the poor condition of link road, in Assam.

5.13. CONDITION OF VILLAGE ROAD IN ASSAM:

Private and public carriers (Bus/Truck etc.) are plying in Assam but due to poor condition of village roads it is not possible to run vehicles in village areas. Respondents' responses regarding the above were as follows.
Table 5.17
PRIVATE AND PUBLIC CARRIERS (BUS/TRUCK ETC.) ARE PLYING IN ASSAM BUT CONDITION OF VILLAGE ROADS ARE POOR, RESPONDENTS RESPONSE

<table>
<thead>
<tr>
<th>No. of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td></td>
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</tbody>
</table>

Table 5.17 indicates that majority i.e. 61.3 percent of respondents opined that private and public carriers are plying but due to poor condition of roads it is not possible to operate in the village areas smoothly.

Most of the rural roads (79%) in Assam are fair weather road. Rains start falling by the end of March and uninterrupted continue to till October middle. The working season is very short, hardly 5-6 months a year unlike other parts of the country. Consequently the construction cost becomes high and gestation period for construction get stretches over many years. Rain coupled with flood damages the fair weather roads, which are constructed of earth embankment without any pavement. Road communication to most of the rural habitation is snapped in these 6-7 summer months every year. Earth road, become slushy and muddy disallowing any mode of motorable
transport to ply over it. Rivers remain in spate, washing away timber bridges and disrupt communication totally.

5.14. RAILWAY SERVICE IN ASSAM:

Infrastructure development is the pre requisite to economic development. A network of railway services serves as a cheap and easy transportation of goods and passengers. The present railway service in Assam as well as North-East region is not satisfactory. Local trains are not frequent in Assam therefore railway is not popular in Assam. Respondents' responses regarding this were as follows.

Table 5.18

<table>
<thead>
<tr>
<th>Respondents Response</th>
<th>No. of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>121 (75.6)</td>
</tr>
<tr>
<td>No</td>
<td>39 (24.4)</td>
</tr>
<tr>
<td>Total</td>
<td>160 (100)</td>
</tr>
</tbody>
</table>

Table 5.18 indicates that majority i.e. 75.6 percent of respondents opined that present railway services in Assam are not satisfactory. Frequency of trains is also low to cater the needs of people. Length of Railway track in Assam is not sufficient, though Assam claim 4 percent of
the total railway track of the country. Moreover railway in Assam is single track.

In the north bank of Brahmaputra from Rangia to Murkongselek connecting Arunachal Pradesh, the single-track metre gauge is not yet converted to broad gauge. The M.G. trains run in this route is very lazy and run without timetable.

The Rangia division of NF Railway is the fruit of 34 years of long mass struggle, which came into being on April 2, 2003. But the infrastructure is yet to be built up. The services of the long distance trains to the south from Guwahati are not satisfactory as alleged by the respondents. Old and dirty coaches are in operation without adequate amenities. The condition of the Guwahati railway station, the gateway of North-east is not good in comparison to Delhi, Howrah station etc. The Rajdhani Express is the only fast moving train but its condition is not at par with other Rajdhani Express.

Works on the double track B.G. line from Alipurduar to New Bongaigaon is completed after a long period of time. The New Bongaigaon – Guwahati – Dibrugarh single track needed to have upgraded to a double track long back. A single track becomes a soft target of the terrorists to disrupt and disconnect Assam from the rest of the country. The recruitment
policy of the Railways for category C and D post is also faulty and discriminatory. The AASU (All Assam Student Union) is agitating for a long to have 100% reservation for the people of the North-east, which needs to be considered in right earnest.

The present affairs of N.F. Railway demand urgent reforms in all sectors. Special attention needs to be paid to the North-east for –

1. Speedy development of the railway network to have connectivity with the far flung areas of political, social and economic purposes.

2. Replacement of old and dirty coaches by new ones.

3. Introduction of fast trains to the south and also to Mumbai considering the increasing demand.


5. Reservation of jobs for the local candidates.

5.15. ROLE OF TRANSPORT IN ECONOMIC DEVELOPMENT:

Geography and politics have played a key role in economic backwardness of Assam along with North-east region. It is almost isolated from the rest of India with a narrow corridor in North Bengal. Lack of communication is one of the factors responsible for this backwardness. Good transportation system is essential for economic development. Respondents' response in this regards were as follows.
Table 5.19

GOOD TRANSPORTATION NETWORK IS PRECONDITION FOR ECONOMIC DEVELOPMENT OF A REGION, RESPONDENTS RESPONSE

<table>
<thead>
<tr>
<th>No. of Respondents</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>129 (80.6)</td>
</tr>
<tr>
<td>No</td>
<td>31 (19.4)</td>
</tr>
<tr>
<td></td>
<td>160 (100)</td>
</tr>
</tbody>
</table>

Table 5.19 indicates that majority i.e., 80.6 percent of respondents opined that good transport network is most essential for socio economic development of a region. A well-developed transportation system contributes to a great extent towards serving the social needs and providing infrastructure for rapid economic development.

Assam is a state where most of the people, by and large, resides in the rural areas and depend mostly on agricultural activities. In order to get remunerative price on their produces, they have to transport the produces to market area.

For this purpose there must be all weather road links to the market area and the nearest railway station. The railway on the other hand, provides the services between the area of production and the consumers at a distance and between manufacture in the town and agriculturists in the village.
The North-east region is economically backward due to its poor transportation network. The region is completely link locked and is connected with mainstream of the country by a narrow strip of 56 km. wide land through West Bengal. Assam being the gateway to the region, all the transport and communication linkage to the states of the region passes through it. Road and railway are the major means of communication in North East region. The four lanning of National Highway Development Project is not covered the North East states except Assam. In Assam also only 20 km. is completed as against 5172 kms. in national level. Moreover during monsoon devastating flood create transport bottlenecks in the region.

The railway is more viable means for transportation of raw materials and finished goods, but the railway network of the North-east region is too poor. In the entire N.E. Region, the total railway route length stood at 2578 Km. as against 63,400 in national level, which account for N.E. Region is 4 percent to total route length of the country. Again the Assam hold 2516 Km of total route length to N.E. Region and account for 97 percent and balance 3 percent is hold by other N.E. states. The state of Meghalaya is conspicuous by its total absence in the railway map of the country till March 2004.

Moreover, the inter state transportation network in the region is poor. Road is the major mode of transportation among the states. Again due to
hilly character of the region, construction of road and railway involves heavy cost, which cannot be undertaken without central fund. But central always consider the project in terms of their economic viability with short run considerations only. Take the case of rail-cum-road bridge over Brahmaputra at Bagibeel. The project when completed would come to serve as a vital link between the Northern and Eastern part of Arunachal in addition to linking the two vastly isolated banks of upper Assam. But to get the project cleared from the centre, the people of Assam and Arunachal had to advocate for long decades. Due to the poor condition of transportation the region is economically backward than other developed parts of the country like Mumbai, kalkata etc.

To conclude it can be said that good transport network is utmost essential for the economic development of region.

5.16. PRIVATE PARTICIPATION IN INFRASTRUCTURE DEVELOPMENT:
Since 1991 government strategy attaches high priority to development of efficient infrastructure and towards creating an enabling environment for private participation in infrastructure sector. Besides public – private partnership can also encourage better risk sharing, accountability, cost recovery and management of infrastructure. But the Assam is lag far behind
Regarding private participation of infrastructure development. Respondents’ responses regarding this were as follows.

**Table 5.20**

PRIVATE PARTICIPATION IN INFRASTRUCTURE DEVELOPMENT IN ASSAM IS ABSENT, RESPONDENT RESPONSES

<table>
<thead>
<tr>
<th></th>
<th>No. of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>119 (74.4)</td>
</tr>
<tr>
<td>No</td>
<td>41 (25.6)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>160 (100)</strong></td>
</tr>
</tbody>
</table>

From the Table 5.20 it is evident that out of 160 respondents 74.4 percent of respondents opined that private participation in infrastructure development in Assam is absent.

With the announcement of liberalised economic policies in 1991, the sector such as—electricity, railway, ports, road, and telecommunication etc., which were reserved for public sector, are opened after 1991 for private sector investment.

All infrastructure projects are capital intensive and all State Governments are undergoing a situation of resource crunch. Accordingly, the creation of quality infrastructure will need the infusion of private capital, both domestic and foreign. Advanced states of the country have succeeded in privatisation and raising fund through equity issue or floating bond and debentures in capital market as commercial projects under BOT and BOLT
system. The first toll road constructed with private sector participation was the Thane – Bhivandi By-pass in Maharastra. The by-pass constructed under a Built Operates-Transfer Scheme by Mumbai based Ideal Road Builders Ltd., opened on June 11, 1997.4

But the problem of militancy, absence of proper policy of government of Assam, more importance given on political gain by the ruling government, lack of proper co operation of public regarding private participation are not encourage the private investors to take up infrastructure project in Assam.

Being asked question to the respondents through personal interview majority of respondents opined that the construction of roads, railway, power projects, airports are made by the government and there is no private participation in infrastructural development in Assam. The concept of private participation is of recent origin. It is coming up in some developed areas of the country. In Assam there are a few industrial undertaking that have contributed to the roadways development scheme as a matter of social responsibility of their business. The Oil and Natural Gas Ltd. Bangaigaon Petro-Chemical, Assam Oil Companies are extending their helping hand in the construction of roads, bridges and repair work. The Tea Gardens of

4. India-National Infrastructure Report, 1998-p.64
Assam are maintaining roads in Tea Garden areas. These are the only few attempts in private participation in infrastructure development of Assam which cannot cope with the present necessity.

5.17. GOVERNMENT POLICY REGARDING TRANSPORT AND POWER SECTORS:

Government formulated plans for the development of transport and power sector but implementation is not properly carried out. The Table 5.21 shows the respondents' response regarding the implementation of Government policy.

Table 5.21

GOVERNMENT FORMULATED THE POLICY REGARDING TRANSPORT AND POWER BUT IMPLEMENTATION IS NOT PROPERLY CARRIED OUT

<table>
<thead>
<tr>
<th>No. of Respondents</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>88 (55)</td>
</tr>
<tr>
<td>No</td>
<td>72 (45)</td>
</tr>
<tr>
<td></td>
<td>160 (100)</td>
</tr>
</tbody>
</table>

The above table indicates that majority i.e. 55 percent of respondents opined that government formulated policy for the development of transport and power sector but implementation is not properly carried out.
The Public Works Department (P.W.D.) Assam has completed the construction of just 173 km of single lane road along with the Indo Bangladesh boarder in 18 years.

Immediately after the formulation of Assam Accord (1985), the state Government entrusted the responsibility for construction of the boarder roads to the P.W.D. The proposed road is 231 kms including 224 km of barbed wire fencing along Dhubri, Karimganj and Cachar districts. But the P.W.D. has completed 173 km of single lane road in 18 years.

National Highway 152 was sanctioned in order to connect India and Bhutan for strengthening the international relationship in various aspects. The road connects N.H. 31 at Pathsala under Lower Assam’s Barpeta district ending at Numlung covering a distance of about 38 Kms. The Executive Engineer, Rangia National Highway Division allegedly failed to collect the land acquisition report from Deputy Commissioner, Barpeta and hence construction was halted. The construction work of the road commenced on December 12, 2001 and out of proposed 38 Km. lengths, only 2.1 Km was completed and remaining work was in a stagnant state for last four years.

The Karbi-Langpi Hydro Electric Project also in above nature. The project was given clearance by the planning commission way back on 1979

at an estimated cost of Rs. 36.03 crore and the target for completion was fixed in 1986. The situation of the state at that time might have delayed the implementation of the project and government entrusted the responsibility of implementing the project to a private company in 1982. As the company failed to go ahead with the project, the government in 1986 entrusted the responsibility to National Project Construction Company in 1987 with the revised estimate of Rs. 75 crore. Again in 1992 the government scrapped the order and in 1993 the project was handed over to Bharat Hydro Power Corporation and it was estimated that Rs. 154 crore would be required to complete the project. Again 2004 government of Assam set target to complete the project and supply electricity in March 2006\(^6\). This is the position of Assam to implement the plans. In such a situation it is not possible to develop the infrastructure of the state.

In railway also, it is found that, most of the railway project in N.E. Region shelved – poor planning, rushed survey works, flawed evaluation of projects, lack of fund have held up most the railway projects under North-East Frontier Railway even 10 out of 16 survey undertaken in last five years have been shelved\(^7\).

\(^6\) Power Department, Assam, Dispur.
\(^7\) N.F. Railway, Maligaon.
The proposed 245 Km Mynaguri – Jogighopa Project was announced in the Railway Budget 2000-01. The project has suffered cost and time overruns because railway planners missed a reserve forest that exist in the path of tracks. Originally estimated to cost Rs. 733 crore, the Railways have not even managed to fix a target date for completion of the project.


From the above analysis it is clear that the implementation of plans regarding transport and power sectors are not properly carried out. Thus the alternative hypothesis “transport and power infrastructure are properly developed and adequate due to proper implementation of plan regarding transport and power sectors in Assam” is not correct and null hypothesis “transport and power infrastructure are not properly developed and inadequate in Assam due to lack of proper implementation of plan regarding transport and power sectors” is proved.

5.18. POTENTIALITY OF WATER TRANSPORT AND ITS DEVELOPMENT IN ASSAM:

Assam is having a bright prospect for the development of water transport system. The inland water transport can not only provide navigation
facilities within the state but it can also provide inter state navigation facilities via Bangladesh. The existing river routes between Kolkata and various locations of Brahmaputra Valley and Barak Valley can offer tremendous prospect and scope for introducing a cost-effective and less-hazardous mode of transport to all the states of North-eastern region, instead of vast potentiality of water transport in Assam, the water transport is not properly developed. Respondents' responses in this regard represented in the tables 5.22 and 5.23.

Table 5.22

<table>
<thead>
<tr>
<th></th>
<th>160 (100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>101 (63.1)</td>
</tr>
<tr>
<td>No</td>
<td>59 (36.)</td>
</tr>
</tbody>
</table>

Table 5.22 indicates that 63.1 percent of respondents opined that water transport is not properly developed in Assam instead of vast potentiality for the same. Assam is rich in water resource with mighty Brahmaputra and its innumerable tributaries. The total navigable waterways determined to be 4065.6 km. Out of which 2,193.6 kms are navigable throughout the year and rest 1,872 kms are navigable only during monsoon.

One third of water in India is carried by the Brahmaputra alone. In summer season it carries 70,000 cubic water in every second of time.

After this respondents asked to specify the reasons for not proper development of water transport in Assam. Table 5.23 represents the respondents’ responses on above.

Table 5.23

RESPONDENTS RESPONSE REGARDING NOT PROPER DEVELOPMENT OF WATER TRANSPORT IN ASSAM.

<table>
<thead>
<tr>
<th>No. of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) Due to development of Railway and Roadway</td>
</tr>
<tr>
<td>(ii) Due to shortage of fund</td>
</tr>
<tr>
<td>(iii) Due to lack of vision</td>
</tr>
<tr>
<td>(iv) Due to soil erosion and siltation problem</td>
</tr>
<tr>
<td>160 (100)</td>
</tr>
</tbody>
</table>

It is evident from the Table 5.23 that 45 percent of respondent opined that due to development of Railway and Roadways the importance of water transport in Assam has declined and hence not properly developed.

Water transport of Assam attained a big boost during British period and maintained its progress until the introduction of Railway in North – eastern region of the country. After the partition of the country in 1947 water
transport system in Assam, had occupied a place of importance in navigation activity even beyond the international border with erstwhile Pakistan maintained regular service with Kolkata.

The introduction of Railway and development of Roadway led to decline of Inland Waterways System in Assam. The advent of Railway and Roadways allowed the growth of urban centers in close proximity to Railway and Roadways terminals. The spread and extensive Road and Railway network diverted trade from Inland water Transport to Railway and Roadways. The Railway and Roadway attracted business due to their fast speed travel.

Water transport in Assam is not well organised, unified and coordinated to meet the threat of competition from Railway and Roadways. Inland water transport is mostly provincially organized with country boat and limited capacity and strength.

The Government of Assam failed to introduce any organised training centres for inland transport like it did in case of Railway. Modern methods of navigation, boat building, rowing etc. is absent among our boatman. Whatever knowledge and skill they had, had been imbibed through generations.
Construction of railway and road bridges over the Brahmaputra naturally attracted Trade and Industry towards railway transport, which further contributed to the gradual decline of inland waterways.

23.7 percent of respondents opined that due to shortage of fund water transport is not properly developed in Assam. Right from the first plan to eight plans the IWT sector suffered a set back in respect of fund allocation. During ninth plan Government of Assam has become liberal as regards fund allocation to IWT department.

During first five year plan no fund was allotted to IWT, but in this plan period Rs. 349 lakh was allotted to transport and communication. During the second Five year plan Rs. 1.23 Lakh only were allotted to IWT which spent on development work leading to the setting up of a Directorate of Inland water Transport for investigating and designing of various navigational project relating to waterways in the state.

During third five year plan Rs. 5.64 lakhs only were allotted to IWT as against Rs. 769.50 lakhs to transport and communication. The allotted amount to IWT was spent on four scheme, hydrological survey, bottom paneling, and preparation of inland port and on preliminary training in various system of navigation.
Thus in the Ninth Five year plan an amount of Rs. 3575 crore has been approved by the Government as against Rs. 84,438 crore to transport and communication, representing only 4.2 percent to the total amount approved to transport and communication.

17.5 percent of respondents opined that due to lack of vision of IWT and Government of Assam water transport of Assam has not properly developed. River tourism has a vast scope in a state like Assam, especially in the Brahmaputra. This requires a close co-ordination between the Directorate of Tourism and Inland Water Transport System in Assam, which could open a great scope of additional revenue through the development of staff and underutilised vessels. But IWT department for such co-ordination has taken no initiative.

Recently the Directorate of Inland Water Transport has started three main schemes. One to lease out the old vessels to unemployed youths for use of floating restaurants and for river cruise. The second is to lease out 52 vessels to unemployed youths for carrying passengers and cargo across the river Brahmaputra and its tributaries. The third one is to lease out 52 scheduled ferry services to unemployed youths to carry passengers across the Brahmaputra, Barak and their tributaries. These are good efforts no
doubt. But these could not develop the river tourism nor could it co ordinate the Directorate of Tourism.

In 2003-04 Government of Assam took some steps to develop abandoned vessels converting to enterprise, for this India’s first long distance. Delux river cruise “MV Charaidew” and medium distance Delux river cruise “RPL Ushaban” was repaired and started to float to cater the needs of river tourism between Tezpur and Kaziranga and between Guwahati – Pabitara and other nearly places for foreign and domestic tourists. This was a novel venture of state Inland Water Transport and Assam Bengal Navigation Company. But the vessels again lying unused as they are too old and after renovation also it could not float for a long time. It indicates lack of vision of IWT Department as well as Government of Assam.

13.8 percent of respondents opined that due to soil erosion and siltation problems Inland Water Transport of Assam has not properly developed. Lack of dredging facilities in the river bed led to siltation and erosion soils which contributed to the deterioration of river ways for navigation. Continuous soil erosion in the catchments areas and consequent siltation of soil on the river beds of Brahmaputra, the Barak and other navigable rivers, would seem to have made the water transport system of the
state decay proposition unless the channels for the movement of ships are dredged regularly.

From the above analysis it can be conclude that the supply of power in Assam is not satisfactory even after restructuring of ASEB, the position is not improved. Though the transport is an important factor for social economic development of a region yet the condition of National Highway, State Highway and other roads are not satisfactory. Railway services in Assam are also not satisfactory. Though there is a vast potentiality of water transport in Assam it is not properly developed.

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CHAPTER - VI

FINDING, CONCLUSION AND SUGGESTIONS.
CHAPTER VI

6.1. Introduction:

In the words of Dr. V.K.R.V. Rao "The link between infrastructure and development is not once for all affair. It is a continuous process, and progress in development has to be proceeded, accompanied and followed by progress in infrastructure, if we are to fulfill our declared objectives of a self accelerating process of economic development."

The development of infrastructure like roads, rail network, waterways, port, electricity etc., are the basic precondition for any economy to achieve and sustain a high rate of economic growth.

Maximisation of human satisfaction and economic welfare are the cordial objectives of a modern welfare state. It is therefore essential that the resources, which have alternative uses, must flow uninterruptedly and continuously and should be used systematically to derive maximum benefit. Transport eliminates the barriers among different countries, places and regions thereby permitting unrestricted movement of scarce resource. Large volume of global business activities, spread of Multinational Corporation the
intensity and velocity of merchandising and commercial activities, the spread and intensity of business competition, development in the field of communications bears an eloquent testimony of contribution of transport. It is an indispensable variable in business activity. Lack of transport or disruption in transport results in loss to several factors of producing leads to colossal wastage of scarce economic resources, causes social tensions and ultimately cripples the national economy affecting the Gross Domestic Product and National Income. Since long, it was the opinion that development of Industry and Agriculture alone can contribute to the economic progress of a nation but gradually it becomes clear that the absence of good, efficient and fast moving transport and adequate supply of power impede development and debars a large section of the common man from reaping the benefits of increased industrial and agricultural activities. Therefore transport acts as an acceleration and catalyst towards faster, higher and quick economic growth.

Assam has not producing enough electricity to meet the states growing demand though it has abundant natural resources. Everyday there are power cuts coupled with voltage fluctuations, which are not only resulting in production losses and also blocking potential fresh investment.
The roads all over the states are in bad shape. Such roads not only slow down the movement of traffic but also result in excessive wear and tear of vehicles and excess consumption of petrol and diesel.

6.2. Findings:

In the light of above view this study of transport and power infrastructure in Assam was undertaken to examine adequacy and inadequacy of transport and power infrastructure in Assam. Inspite of many constraints a modest attempt has also been made to analyses the problems of transport and power sector in Assam. The findings of this empirical study are given below.

1. The proportion of surface roads in Assam is quite insignificant i.e.. 27 percent as compared to country is 46 percent, 21 percent of road in Assam is black topping as against 52 percent in the national level, 13.15 percent of village which population is more than 1000 are connected by all weather roads where as in national level the percentage is 92%.

Existing road network in Assam is quite deficient due to inadequate capacity weak pavement, poor geometric, poor riding quality, weak and distressed bridges and presence of semi permanent bridges every seven-kilometer.
2. The progress of NHDP works in Assam is not satisfactory. Only 20 km of four lanning has been completed which is 1.39% of the work as against 50 percent in national level.

3. The fleet strength of ASTC has been gradually decreasing from 640 in 1999-2000 to 361 in 2003-04 indicate a poor position of fleet strength. On the other hand average earning per kilometer was increase from Rs. 8.54 lakh in 2001-02 to Rs. 11.09 lakh in 2002-03. Average monthly income also increased from Rs 10 lakh in 2001-02 to Rs 35.00 lakh in 2002-03. This was happened due to revival scheme adopted by government of Assam in 2001.

4. Nos. of motor vehicle on roads in Assam has been increased gradually. The total nos. of different types of vehicles on roads has increased from 4,01,289 in 1999-2000 to 6,70,580 in 2003-04.

5. No commercial projects for infrastructure development are there in Assam under BOT and BOLT system. The oil and Natural Gas Ltd., Bangaigan Petro-Chemicals, Assam Oil Companies are extending their helping hand in the construction of roads, bridges and repair works. The Tea Gardens of Assam are maintaining roads in Tea Garden areas.
6. Assam's share in country's railway route length turned out to be around 4.0 percent. The portion of broad gauge route length to the Railway Route worked out at 48 percent for the state. Lack of development in regard to amenities, safety, security and punctuality is more evident in railway of Assam and lagging far behind the rest of the country. Halting of ongoing railway project in Assam is another reasons for the backwardness in Assam. The recruitment policy of the railways for category C and D post is also faulty and discriminatory. The frequency of rails in Assam is low. Due to insurgency problems movement of rails are restricted in the nighttime. Broad gauge network inadequate in the whole North-East part of the country.

7. The density of railway route length per thousand sq. km of area in Assam is 32.08 km as against 19.21 km in national level, which indicate a higher position in terms of route length. But 52 percent of track is under meter gauge and broad gauge is in single track in Assam. Moreover fast moving trains are limited in Assam. Therefore it can be said that position of railway in Assam is unsatisfactory. Now it is improving as the double track project from Alipurduar to New Bangaigaon is completed and double track infrastructure at Kamakhya station is going to complete.
8. One of the constraints in the way of introduction of various facilities in Assam is the poor financial condition of N.F. Railway. In 2002-03 and 2003-04 the N.F. Railway's loss in working amounted to Rs. 720.17 and 630.26 crore respectively. The percentage of loss on capital-at-charge for the above years were 28.72 and 23.28.

9. India has ever 14,500 Km of navigable inland waterways and Assam's share in this respect stands 1983 Km, which constitute nearly 14 percent of India. It has potentiality to develop waterways, which is very much cheaper in comparison to other means of transport.

10. The planners and policy makers of Assam have never seriously thought of potentiality of developing inland water transport system. There also seems to have developed a misplaced notion that water transport system is unsuitable for the present situation.

11. Assam accounts for only a small fraction i.e., 0.12 percent of the total generation of electricity in the country. The average per capita consumption of electricity in Assam is 116 KW as against 368 KW in national level. This indicates low level of industrial and power production works.

12. The overall power supply position in Assam is not satisfactory. The shortage of power has increases year after year. In terms of percentage
the shortage of power has increased to 5.60 in 2002-03 in comparison
to 3.33 percent in 2001-02 and in 2003-04 the same has been to 11.40
percent. In peak demand also the percentage of shortage has increased
to 23.78 percent in 2002-03 than 10.20 percent in 2001-02 and the
same has been increased to 24.50 percent in 2003-04.

13. The pattern of consumption of power in the state is highest in respect
of domestic sector followed by industrial sector and tea sector in the
state. 35.8 percent in domestic, 16.0 percent in industrial sector, and
13.3 percent in tea garden are consumed respectively in 2003-04.

14. The percentage of village electrified in Assam is 77.13 percent at the
end of March 2005 as against the national level 83.7 percent; indicate
a poor position of rural electrification in Assam.

15. Assam state Electricity Board is financing its projects with large
amount of loans. These loans and other liabilities make ASEB sick. It
requires modernisation and professional management to improve its
functioning.

16. The Government of Assam already unbundled the ASEB into three
companies-generation, transmission and distribution on the basis
Electricity Bill 2003. But with the disintegration of the parent body
into different functional areas would be coordinated and regulated by
State Regulatory Commission. Moreover reform can show result only after some minimum time lag. Meanwhile there could be a lot of resistance to change from those who have a vested interest in existing system. By observing the present state affairs of ASEB in context to technical inadequacy and other malice, a control agency in the form of Assam Electricity Reguarity Commission (AERC) can only advice the Board.

17. Though the Guwahati Airport has been elevated to international airport but in respect of international aircraft the position of Assam is very poor. So more international aircraft should be introduced to other airports of N.E Region.

18. In Nalbari district among different modes of transport roadway is found to dominate the other modes of transport.

19. The road length under P.W.D. in Nalbari district per lakh of population with 101 km is lower than that of its 131 km in the state in 2003-04. But in term of road length per hundred sq. km of geographical area with 51.1 km is higher as against its 44.8 km in Assam. But due to dominance of unsurfaced roads with 80.1 percent in the district as against 73.4 percent in the state the position of road in the district become poor.
20. The most important problem the study has identified in the Nalbari district is lack of all weather roads. The study also reveals that problems of all weather roads in Nalbari district as well as in Assam would solve to some extent as a result of the implementation of PMGSY, RIDF schemes etc.

21. Absence of power plant, own griding sub-station and low transformer Capacities in all sub-stations of Nalbari district are the major problems of power sector in the district. These problems need to remove to develop the power scenario in the district.

22. The Assam and North-East, linked to the rest of the country by a mere chicken-neck corridor lag-far behind, a prime reason for that being the lack of an extensive road network. Even to day, industrialist shy away from coming to the region, and more importantly, transportation of agricultural and other produce from villages to market places becomes next to impossible for the lack of all weather surface linkage. The average availability of road in Assam is mere 44.8 km per hundred sq. km against the national average 63 km, while just 21 percent states roads are black topped, the rest 79 percent are fair weather roads, rendering communication a persistant irritant during the prolonged
monsoon period. Another area of concern is the pitiable condition of the nearly 5000 wooden bridges connecting the rural roads.

23. The study reveals that policy on transport and power sectors are not properly carried out in Assam.

The study has been undertaken to examine the adequacy of transport and power infrastructure. The primary data may not be completely free from prejudice and subjectivity. The secondary information have been more elaborately analysed and relied upon for the purpose of research. Financial and time constraints have been substantial in the way of going for more detailed analysis. In spite of all these things, it has been earnestly attempted on our part to have a detailed analysis of the problems.

6.3. Suggestions:

Some suggestions mentioned below for the improvement of transport and power infrastructure facilities for the economic development of Assam.

1. The state meets at the priority level, development of infrastructural facilities. Transport bottlenecks, which are the greatest problem of the state, should be dealt with special emphasis. The road length should be increased so that it is at par with the country's average. The existing road network should also be made for connecting the states of N.E region with the railway. Had there been a good network of rail lines in
the state and N.E. region then the problem of transportation of goods as well as passengers have been lessen to a great extent. Again during monsoon, floods very frequently occur in the state, which sometimes makes the state disconnected from the rest of the country due to heavy damage of roads and railways. As such stringent measures should be taken up for civil aviation, flood control and its management, improvement of railway services and road communication. Considering the fact that the state depends heavily on many supplies from other parts of the country it is necessary that the bridges be made in such a way that the connection to the state does not get snapped.

2. To develop transport network of the state a comprehensive action plan by active participation of all the political units irrespective of their political affiliation is forthcoming to insist the central Government for its implementation. To be fair the matter is more political than economical. Therefore a political approach by the State irrespective of their party affiliation should be taken up to solve the matter.

3. The union Government, the state Government and North East Council should make concerned efforts towards development of infrastructure facilities in the state. There is urgent need of taking steps for
removing transport bottleneck and ensuing adequate electricity generation in the region so as to attract private entrepreneurs.

4. Government of Assam should give special attention to develop all the medium and small hydro-potential, which remain totally neglected now. It would appear that no systematic and urgent action has been taken to develop these small and medium hydro power project in Assam, the Karbi Langpi H.E. project with an installation of 100 M.W, where work was started in 1981-82 has been allowed to remain incomplete. Of late government has taken the initiative and started remaining part of the work and targeted to complete by March 2006. In view of the need to fully utilize the practically untapped but huge power potential of the state, the center should come forward, with its own schemes to develop power facilities in this state and must offer block grant and specific grant to State Electricity Board for developing new power projects. The surplus power, which can be made available by utilizing huge untapped power potential in Assam, can be supplied to power deficit states to tackle the national problem of load shedding through a national power grid system.

5. The other potential sources of power generation in Assam are gas, oil and coal. Oil based generation may not be considered in view of the
countrywide shortage and high cost. However, every source should be considered in detailed planning for power generation. The actual implementation of thermal generation scheme should however be initiated after exhausting the regional and Assam's own hydel power sources.

6. Completion of NHDP for construction of Super Highway or Expressway and road bridge over Brahmaputra close to one at Saraighat as a part of East-West corridor to establish a secure road link with other states of the country is essential.

7. Steps must be taken to construct all weather roads, connecting the different corners of the state.

8. N.F. Railway should go for major extension the railway network in other north-eastern states and implement the gauge conversion project as early as possible. The expansion plan must go include a double B.G. track from New Bangaingaon to Dibrugarh. Introduction of additional fast moving trains from Assam to other parts of the country.

9. Government should provide some contingency fund for regular leveling of large craters and big potholes. This is not such a tough job and only calls for a little budgetary planning, annual fund provision work-execution, planning and development resolve. It should be the
regular duty of MP’s and MLA’s to keep a vigil. However the researcher feel that the most effective person to take care of this problem on a regular basis is the Deputy Commissioner of each district. He should arrange for periodical inspection and formally advice the list of earmarked roads to the concerned department, giving the priorities. There should be strict monitoring by the District Commissioner and his officials, or the list will remain just a scrap of paper. The State Government should include this subject for monthly review.

10. A strong public consensus is to be grown for raising voice against the delay, and for pressuring the center to declare the Bogibil Bridge Project as National Project. Once it is declared a National Project the entire work will be monitored by Prime Minister’s Office. This would expedite the construction. The existing railway line from Dibrugarh to New Bangaigaon passes through the flood prone district of Nagaon. As floods recurrently affects Jamunamukh-Chaparmukh section probably the demand for a new line from Jogijan to Tezpur via Silghat with a double decker bridge parallel to the existing one over river Brahmaputra, would be raised within 5-7 years. The new line would work as an alternative line for Dibrugarh to Rangia via Tezpur.
11. The intellectuals, academics, politicians, students, leaders, businessmen, workers and all concerned people must come together because we are all stack holders in the process of development.

12. Adequate step must be taken to revive the inland water transport system for both passenger and cargo traffic and re-establish the water transport link between Haldia, Dhubri and Dibrugarh via Bangladesh for realizing the benefit of cheapest mode of transport.

13. The physical and commercial realties of water transport at present are quite different as compared to pre-British period, when water transport was quite cheaper and viable. Later on with the growth of roadways and railways the importance of water transport in Assam has declined considerably. Moreover continuous soil erosion in the catchments areas and consequent siltation of soil on the river beds of Brahmaputra, the Barak and other navigable rivers, would seems to have made the water transport system of state a decay proposition unless the channels for the movement of ships are dredged regularly. However, it is not an impossible task, considering the existing Hoogly channel from the sandheads in Bay of Bengal to the Kolkata port as distance of over 200 nautical Kms. is being dredged regularly for navigation of large ships safely. But for the inland water transport in
Assam suitable depth for much smaller ships is to be maintained. From the commercial angle water transport is quite cheap mainly for relatively small value, high bulk commodities such as mineral ores, forest products, food grains, jute, tea etc. Now such bulky cargo traffic of Assam are being much on faster mode of transport i.e. roadways and railways. But all these items can be transported by availing water transport at much cheaper cost provided they are regular, reliable and dependable. However, inland water transport over short hauls will still be quite viable and is very much necessary for commodities such as rice, pulses, mustered seeds, fish, eggs, fruits, vegetables and various cottage and small industry products. But in order to utilize potential, terminal facilities and approach roads to the river ports must be improved to a considerable extent. In the absence of such improvement, this prospect and potential will remains a pipe dream only.

14. Steps must be taken by the state as well as Central Government to control the flood problem in Assam. A master plan should be prepared by the respective authority of the State Government and insist the Central Government for its implementation. For this a concreted effort of all political units is necessary.
The law and order situation of state be improved for smooth passage of existing transportation system.

There are enough scopes of research in this field as the transport and power are the important component for economic development of a region.

6.4. Conclusion:

To conclude it is observed that a sound transport network is lifeline of communication and on which progress and development depend to a great extent. There is saying among the Americans that they are rich because they have good roads and not they made road because they are rich. No sphere of human activities- be it individual or collective would be complete without transport. The success of trade and commerce, industry etc. is largely linked to the existence of a proper transport network. Road development in Assam is still in a developing stage, something that explains the poor economy of the state, as good surface connectivity is an essential pre-requisite for thriving economy.

The available fact regarding transport and power infrastructure facilities in the state clearly indicates that there is still a lot to be achieved in this area of development. Any economic reforms process would become redundant if it does not include infrastructure development. In this new era of economic development a significant observation is the liberalisation has
resulted stiff competition among many developed states to attempt investment leaving other backward states like Assam.

Infrastructure is marked by long gestation periods, heavy investment and relatively low returns. In the absence of attractive tax relief's and incentives offered by the state Government, it is apprehended that private capital may remain shy. The reality is that there is no magical formula by which problem of infrastructure funding can be solved. The challenge of state Government is to raise its investment through encouraging the private sector.

However, while paying direct attention to infrastructure, the Government must also continue to pursue its policy reforms in public sector, as it would supplement Government's effort of developing infrastructure.

Assam is deteriorating further. The urgent need for the state is to augment and strengthen transport and power infrastructure so that state would be able kindle the actual process of economic reforms.

In order to bring proper economic development the creation of strong political leadership, accurate and safe demarcation of boundaries, stopping of irregularities in government constructions, proper implementation of policies and the full utilisation of the central schemes are the urgent necessity.

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