CHAPTER 3

DEVELOPMENT OF RAILWAYS

Background

As noted in the preceding Chapter, owing to facilities of river transport, the tea industry - the most important industry of Assam - took root in distant parts of Assam even half a century before the advent of long distance railway communications. Whatever rail transport existed in Assam in the initial stage was nothing more than feeder to the river transport. By 1885 the only railways in Assam were the Dibru Sadiya Railway (metre gauge), constructed by the Assam Railways and Trading Company in 1882 and the Jorhat Provincial Railway (two feet gauge) in 1884. Both these railways, connecting the distant tea gardens with the Brahmaputra, were nothing more than feeder lines having no link or contact with any railway system outside the region.

It was the opening of the Assam Bengal Railway in 1886 which connected Assam with outside world and as such the impact of railways in Assam is primarily the outcome of the establishment of this railway. In addition to these there were many garden tramways (ranging from 18-inch gauges to metre gauge), totalling about 330 miles which served

1 By 1915 the approximate mileages of tramways in various districts were: Lakhimpur 158, Sibsagar 108, Darrang 50, Nowgong 10,

as most useful feeders to the A.B.Railway and the river transport, and they were worked efficiently by trollies. Most of these lines were in the tea districts of Lakhimpur and Sibsagar.

The Reports on the River-borne Trade of Assam amply testify that railway traffic handling increased substantially only after the main line (A.B.Railway) was connected with lines coming from neighbouring areas. As revealed from the following Table, the railway traffic increased substantially only after 1904 when Assam was connected with the ports of Chittagong and Calcutta by the railway systems.

Table 3.1: Imports and Exports by Railways and Waterways

<table>
<thead>
<tr>
<th>Year</th>
<th>Imports</th>
<th>Exports</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Railways</td>
<td>Waterways</td>
<td>Railways</td>
</tr>
<tr>
<td></td>
<td>(in lakh maunds)</td>
<td>(in lakh maunds)</td>
<td>(in lakh maunds)</td>
</tr>
<tr>
<td>1896-97</td>
<td>1.03 (1.80)</td>
<td>55.99 (98.20)</td>
<td>0.14 (0.14)</td>
</tr>
<tr>
<td></td>
<td>1.17 (0.74)</td>
<td>157.85 (99.26)</td>
<td></td>
</tr>
<tr>
<td>1904-05</td>
<td>15.10 (25.90)</td>
<td>43.20 (74.10)</td>
<td>11.78 (8.93)</td>
</tr>
<tr>
<td></td>
<td>26.88 (14.20)</td>
<td>163.42 (85.30)</td>
<td></td>
</tr>
</tbody>
</table>

(Figures in bracket show percentage)

But the review of import and export trade through railways and waterways reveals that the railways played only a partial role in a restricted region (Sylhet and Cachar) at the close of the nineteenth century. In terms of quantum of trade, the relative share of railways, as evident from the above Table, rose as many as nineteen times, but import and export by rail were mostly to and from Sylhet and Cachar area. The Upper Assam and Hill areas did not have much impact of trade.

2 Compiled from the Reports on Assam Administration
In 1904-05, 16 per cent of the total trade of the Assam Valley was carried by the railway as against 10 per cent in the Surma Valley. The tea export to the Chittagong port by railway increased from 2.50 lakh maunds in 1902-03 to 4.34 lakh maunds (23.3 per cent of the total trade) in 1904-05. It is only after this year that imports to and exports from the Upper Assam and the Lower Assam by rail increased substantially as evident from the Table below, and consequently the share of export and import by river tended to decrease.

### Table 3.2: Relative Percentage of Rail-borne Traffic to Total Import and Export Trade of Assam

<table>
<thead>
<tr>
<th>Year</th>
<th>Import</th>
<th>Export</th>
</tr>
</thead>
<tbody>
<tr>
<td>1907-08</td>
<td>47</td>
<td>51</td>
</tr>
<tr>
<td>1911-12</td>
<td>47</td>
<td>51</td>
</tr>
<tr>
<td>1914-15</td>
<td>50</td>
<td>52</td>
</tr>
<tr>
<td>1915-16</td>
<td>52</td>
<td>33</td>
</tr>
<tr>
<td>1916-17</td>
<td>56</td>
<td>28</td>
</tr>
<tr>
<td>1917-18</td>
<td>57</td>
<td>32</td>
</tr>
<tr>
<td>1918-19</td>
<td>49</td>
<td>38</td>
</tr>
<tr>
<td>1919-20</td>
<td>54</td>
<td>48</td>
</tr>
<tr>
<td>1920-21</td>
<td>60</td>
<td>46</td>
</tr>
<tr>
<td>1921-22</td>
<td>60</td>
<td>38</td>
</tr>
</tbody>
</table>

It appears from the above Table that the railways had more impact on import than on export trade in the beginning of this century. Further, the proportion of rail-borne traffic in the export trade was fluctuating from time to time.

Up to 1904, one peculiar feature of the railways in Assam was

3. The Assam Administration Report on 1898-99 indicates that even boat played a bigger role than rail transport in both export and import trade between different blocks of Assam, although it served the Cachar block most. The steamer, however, played the biggest part and handled more traffic (both export and import) in comparison to both rail and boat.

4. Compiled from the Reports on Trade for Assam
the existence of different sections with varying gauge in different parts of the State. These small railway lines spreaded up in different areas and were not at all connected by any main railway line for many years. Due to difference in gauge the main line (A.B.Railway) faced occasional operational difficulties and in 1915 the A.B. Railway commented:

"In an undeveloped province the location of a tramway on a district road savours of redundancy. If the road is good, the tramway is not an urgent necessity. If the road is bad it had better be replaced by proper railway." 5

The 2-feet gauge feeder lines mentioned above were specific to particular local needs of traffic like tea, timber, coal etc. and caused headache to the A.B.Railway.

In those days, according to the government policy, metre gauge was adopted for local and provincial railways 'especially designed for a slow goods traffic' and the broad gauge was regarded as suited to 'supplementary through lines of communication'or designed for military or strategic purposes and Assam did not have broad gauge at all. As early as in 1915 the A.B.Railway stressed that

"even if 200 miles of light metre line at a capital cost of one crore were to be constructed on which the Government liability would be one lakh, there would be no real loss to the Local Government as it is inconceivable that the general advance of progress of the country from an increased general revenue would not be considerably greater than the yearly liability of one lakh. The Railway Board Administration Report shows the average percentage of net earnings on capital of 2'-6" and 2' gauge Railway is 3.6 per cent whereas the average on metre gauge railways is 6 per cent. These figures do not show the light Railways at an advantage". 6

In a way the railway construction in Assam resembled the railway construction in America as the promoters were not very sure of

5 N.A.I.: Delhi Records 1916 : Railway Department Proceedings April 1916, Case No. 256-P
6 Ibid.
any definite value of natural resources except tea. It was opined that the promoters of the Chittagong-Assam railway should be granted terms similar to those given to the promoters of railways in America. A letter addressed to the Secretary of State for India by the railway Public Works Department stated:

"... we really know very little about the resources of the country which this (Chittagong to Assam) projected railway would traverse ... The tract may turn out exceedingly rich both in coal and oil; or it may fall far short of the anticipations which have been formed of its natural wealth and resources. The enterprise in this respect resembles an American railway, made for the purpose of opening up an unknown tract, rather than an Indian commercial railway which, as a rule, connects centres already populated and developed ... We should not hesitate to be liberal ... because we cannot hope to open up Assam immediately by railways constructed by the state. It appears to us far better to develop this new country, even if the projectors of the undertaking have a chance of getting 7 or 8 per cent upon their capital with a moiety of surplus profits, than to allow Assam to remain for an indefinite number of years in its present undeveloped state. We would especially lay stress upon the fact that the natural wealth of the province may upon examination turn out to be far below anticipations ... In the case of oil, for instance, we know nothing beyond what Mr. Townsend reported in 1888 about the petroleum deposits in Assam. Since then the lessees have not as yet succeeded in finding any marketable supply of oil". 7

Considering from these facts it is difficult to admit that development aspect was neglected and the sole purpose of railway construction in Assam was the exploitation of natural resources as was the pattern in any colonial economy.

Similarly, as regards the initial railway construction in Assam we cannot say that a study of the cost-benefit was altogether neglected. The Government records show that a proposal for construction of railway in Assam was disfavoured by the railway authorities:

"We are strongly of opinion that this scheme (of General Dickens) should be at once rejected, as it contemplates the construction of only those portions of the entire scheme which are the most likely to be remunerative, and omits to

7 N.A.I.: Railway Department 1890 : P.W.D.: Railway Construction June , File Nos. 22 - 33
provide for the connection of the Assam Valley with Bengal, which is one of the principal objects we have in view.

A study of old correspondences and Government records leads us to conclude that at the beginning the line from Chittagong to the Upper Assam across the Cachar Hills was constructed after a good deal of cost-benefit analysis, keeping in mind not only the cost in terms of money but benefits in terms of general economic development. Mr. Molesworth, the consulting engineer to the Government of India, remarked:

"It is difficult to overrate the importance of this line to Assam in a strategical, political, administrative point of view. The whole line between Silchar and Golaghat is, however, virgin forest, and the population is practically nil. But there are rich tracts of land suitable for tea along the line of railway, which would be eagerly taken up if a railway were constructed, especially in the Dimapur Valley, and such line would undoubtedly revolutionise upper Assam. As a direct route to Calcutta, such a line would possess many advantages compared with the route via Dhubri."

Mr. Buyers, Engineer-in-Chief also stated:

"... there appears little reason to doubt that a railway following this route, and serving, as it would, the important districts of Sylhet and Cachar, has enormous advantages over a railway simply running down the valley of the Brahmaputra, parallel throughout its length to a navigable river, and commanding only a narrow tract of country."

When Mr. Ward, Chief Commissioner of Assam, on the other hand, advocated the Fakirganj line as an alternative to the line through the Cachar Hills, the railway authorities commented:

"... The Government of India, however, cannot consider the matter upon the comparatively narrow basis of the cost of export of a single not very bulky, though highly important article; they must look at the immigration, planting and commercial interests as a whole. From this point of view, they cannot but hold that it is better to confer the benefits of railway communication upon fertile but now completely

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8 N.A.I.: Railway Construction 1889 July: File Nos. 26-42
9 N.A.I.: P.W.D.: Railway Construction Original 1887 December: Nos. 224-261
10 It appears that Mr. Buyers was more concerned with tea interests, administrative and military needs - a point which was much emphasised by Mr. Lyall, the Commissioner of the Chittagong division.
landlocked tracts, than upon such as are at present tolerably well served by steamer transport; and that it is more prudent to allot rail and steamer to different portions of a developing Province than to bestow both on one alone; and that it is in the best interests of upper Assam to place it in direct communication with the seaport nearest to it, namely, Chittagong.

Mr. Molesworth thought in terms of developing coal trade (especially of coal to sea-going steamers at lesser cost) and pouring grain from Sylhet to Assam in addition to calculating the distance of ports from Assam:

"The distance of Dibrugarh to the port via Chittagong would be from 150 to 200 miles less than that via Dhubri to Calcutta, and without break of bulk, whereas the line via Dhubri to Calcutta involves two breaks of bulk."

At the same time Mr. Ward's views were also equally convincing and he emphasised the point that a railway line need not be specific to a particular industry. He stated:

"... I deprecate most strongly the merits of the question being determined from the planter's point of view only. Even if we accept the planter's view that he would gain nothing by a disconnected Assam Valley line, it is perfectly clear that he would lose nothing by it; and as the enormous gain which would accrue from such a line to the Assam Valley generally, irrespective of any consideration of the planting interest, cannot be disputed; ... I hold very strongly that the Assam Valley will never emerge from its present state of wilderness and isolation until a railway runs through it from one end to the other. The present fast line of steamers have no doubt done much to improve communication with Bengal, but they will not do in fifty years what a railway connected with Bengal, via Dhubri will do in five."

This shows that the Assam Government was also concerned with general development rather than with service to a particular industry, say, tea.

As the railway construction in Assam was difficult owing to various problems like climate, rainfall, and shortage of labour and materials, initial ventures were aided by the government either to the extent of defraying the cost of construction (as in case of the

Jorhat and the Cherra Railways), or guaranteeing the interest (as in case of the A.B.Railway), or by granting free timber for a number of years with the full use of the whole trunk road, and an annual subsidy in money (about Rs. 1,250 per mile as in case of the L. S. Railway).

The average cost of construction of railway line per mile varied as follows: E.B.Railway Rs.1.6 lakhs, A.B.Railway Rs.1.8 lakhs, T.B.Railway Rs. 24,000, D.S.Railway Rs.1.2 lakhs, and J.P.Railway Rs.29,000. The public fund also contributed to railway construction in Assam and investment in the railways in Assam originated also in the United Kingdom. It may be noted that the Government of India incurred a total loss of Rs. 3.59 crores towards supporting the A.B.Railway during the period from 1895 to 1917-18. Similarly, the D.S.Railway had subsidy of Rs. 0.12 crore from the Assam Government during 1884-1893. The J.P.Railway also involved public investment of about Rs.0.1 crore and an accumulated loss of Rs. 5 lakhs up to 1901. In Assam there were also examples of local government fund being utilised for railway construction. In case of the T.B.Railway the tea gardens subscribed to 45 per cent of its paid up capital of Rs. 4 lakhs, and the government supplied timber free of royalty and the Local Board of Tezpur paid a total subsidy of Rs. 1 lakh in twenty annual instalments.

It is interesting to compare here investment in tea industry with that in railways in different years. The acreage under tea in 1850, 1871, 1875, 1882, 1901, 1913 were 1,876, 31,000, 59,834, 108,673, 204,682 and 367,500. If we consider "the total outlay of bringing a garden" up to about 1868 to be Rs. 400 per acre then the total investment in tea industry in the 1850's was about Rs. 7.5 lakhs. The "Jorehaut" Tea Company was incorporated in 1859 with a capital of

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12 Railway Board : Annual Reports on the Railways in India
£60,000. And the Plantation Inquiry Committee (1956) states that by 1954 the total "capital invested in tea plantation" in Assam State was about Rs. 26 crores when there were about 3.90 lakh acres under tea.

The following Table shows the total capital outlay and percentage of net earnings to total capital outlay in various railways in Assam during different periods.

**Table 3.3: Total Capital Outlay and Net Earnings in Various Railways**

(Rs. in crores)

<table>
<thead>
<tr>
<th>Year</th>
<th>A. B. Railway</th>
<th>D. S. Railway</th>
<th>J. P. Railway</th>
<th>T. B. Railway</th>
<th>Total approximate capital outlay</th>
</tr>
</thead>
<tbody>
<tr>
<td>1895</td>
<td>4.27</td>
<td>N.A.</td>
<td>N.A.</td>
<td>N.A.</td>
<td></td>
</tr>
<tr>
<td>1901</td>
<td>11.17</td>
<td>N.A.</td>
<td>N.A.</td>
<td>N.A.</td>
<td></td>
</tr>
<tr>
<td>(0.44%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1910</td>
<td>14.45</td>
<td>N.A.</td>
<td>0.09</td>
<td>N.A.</td>
<td></td>
</tr>
<tr>
<td>(0.54%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1913-14</td>
<td>15.70</td>
<td>1.09</td>
<td>0.10</td>
<td>0.04</td>
<td>16.93</td>
</tr>
<tr>
<td>(1.51%)</td>
<td>(5.50%)</td>
<td>(3.74%)</td>
<td></td>
<td>(8.31%)</td>
<td></td>
</tr>
<tr>
<td>1920-21</td>
<td>17.70</td>
<td>1.22</td>
<td>0.11</td>
<td>0.04</td>
<td>19.07</td>
</tr>
<tr>
<td>(1.17%)</td>
<td>(2.98%)</td>
<td></td>
<td></td>
<td>(3.71%)</td>
<td></td>
</tr>
<tr>
<td>1930-31</td>
<td>23.92</td>
<td>1.52</td>
<td>0.13</td>
<td>0.04</td>
<td>25.61</td>
</tr>
<tr>
<td>(2.98%)</td>
<td>(10.03%)</td>
<td></td>
<td></td>
<td>(8.36%)</td>
<td></td>
</tr>
<tr>
<td>1940-41</td>
<td>24.53</td>
<td>1.53</td>
<td>0.13</td>
<td>0.04</td>
<td>26.54</td>
</tr>
<tr>
<td>(2.03%)</td>
<td>(5.50%)</td>
<td>(-2.12%)</td>
<td></td>
<td>(8.61%)</td>
<td></td>
</tr>
</tbody>
</table>

(Figures in bracket show net earnings to the total capital outlay)


About half of the total investment in tea industry in India was made in Assam; of the amount invested in Assam about 76 per cent was sterling capital, about 13 per cent non-Indian rupee capital, and only 11 per cent Indian rupee capital. (Goswami, P.C.: The Economic Development of Assam 1963, p. 161)

16 Compiled from the Supplement to the History of Indian Railways 1968, Ministry of Railway, G.O.I., pp. 122-148

In addition to the railways mentioned in Table 3.3 there were small railways such as the Cherra Companyganj Railway - with pure government investment, and the Ledo Tikak Colliery Railway - with private investment.

The J.P. Railway had only government investment.
Thus it may be inferred that in the 1850's investment in tea was more than that in any other sector in Assam. However, investment in railways increased with passage of time and by 1940-41 it became so high as to be equal to the investment in tea in 1954. It is interesting to note here that by 1940-41 the total outlay on communication in Assam, when there were about 554 miles of metalled roads, was only Rs. 0.35 crores. Again the total paid up capital of all the river companies operating in Assam waters was about Rs. 2.4 crores only by 1958. Moreover, the gross capital investment in the Assam State Transport was about Rs. 5.23 crores only even by 1940-41. Thus, when we compare the volume of investment in railways, tea industry, river services and the Assam State Transport, we find that the railways alone formed the most important sector of investment in Assam in this century. And the private enterprise was leading the role.

Another interesting feature was that even when the profits in tea were higher a substantial amount came to be invested in the railways in Assam by the private entrepreneurs. This is significant in view of the fact that the Indian capitalists did not show interest in investing in railway enterprises and capital from outside had to come.

17 G.O.A. Report on the Administration of the P.W.D. for 1940-41, p.5
18 We have found that by 1958 the total paid up capital of the six out of nine main companies operating inland water transport services on the Brahmaputra were £12.7m (the I.G.S.N. Company £8.9 lakhs, the R.S.N. Company £3.8 lakhs) plus Rs. 52.7 lakhs which means a total of about Rs. 2.4 crores. (Lok Sabha Secretariat: Lok Sabha Debates: Second Series: Fifth Session: Appendix VI, 1958, p.1587)
19 The Assam Tribune: January 18, 1970
20 The Jorehaut Tea Company's dividends for the first five years (since 1860) amounted to 5 per cent, 11 per cent, 13 per cent, 36 per cent, and 34 per cent respectively. (Griffiths, P.: Op. Cit., p.75)
21 The papers of Dalhousie and Charles Wood show that repeated attempts were made to raise capital in India, but failing in every attempt, Dalhousie finally said to Wood, "we shall get nothing subscribed to Railways by native capitalists". (Das, M.N.: Studies in the Economic and Social Development of Modern India 1959, p.106). In Assam the government investment in railways was less than Rs.2 lakhs in the Cherra Companyganj Railway by 1884-85 and less than Rs.14 lakhs by 1940-41 in J.P. Railway.
The Assam Administration Report of 1892-93 categorically stated that although between 1882 and 1886 there were surveys in Assam for railway construction "for some years no practical result supervened, as want of funds prevented the construction of a line at the expense of the State, and negotiations with private capitalists were not successful". It was only in 1891-92 that a company was formed, subject to a 23 guarantee by the State. In fact private enterprise and private capital had a great contribution in the process of development of railways in Assam and direct profits on the lines were not as important a factor as the profits from other sectors and general economic development of the area.

History shows that the line to Poradaha in 1862 was the first rail route towards Assam. By 1879 the railway line came to Kaunia and Goalundo, an important transhipment point (about 240 kilometres east of Calcutta in the junction of the Brahmaputra and the Padma). The year 1881 is important in the railway history of Assam as it was then that the A.R. & T. Company was formed for starting the D.S. Railway. Four years later the J.P. Railway and the Tezpur Railway (up to Bindukuni) opened mainly as tea lines. These three railway systems, namely, D.S., J.P. and Tezpur, altogether about 200 kilometres, helped the process of development but to a limited extent and in restricted regions as they remained separate from each other and from the main

22 G.O.A.: Assam Administration Report 1892-93, p.60
23 Financing railway investment with foreign capital is nothing new. The most important single item of European investment before 1914 was the financing of American railways and Britain provided the finance needed to double the United States railway mileage between 1866 and 1873. Three-quarters of Argentina's railway tracks were built with British and French capital. (Woodruff, W.O.: Impact of Western Man 1966, pp.119-124)
24 Even in post-independence era the private sector investment in Assam including oil and tea is about Rs. 220 crores as against the total capital outlay of about Rs. 201 crores in the N.F. Railway by 1969-70. (The Assam Tribune, August 15, 1972)
railway systems of India. 1892 was a significant year as the main line, the A.B. Railway, was started during this year. By 1896 a line from Bengal (Chandura) to Badarpur in Assam was opened for traffic. It was in 1897 that the A.B. Railway opened the Gauhati-Jamunamukh section although it was not successful owing to the great earthquake of 1897. In the same year Chittagong was connected with Cachar district. Since 1902 railway development in Assam was meaningful in the sense that Assam was connected with the two great ports by two lines, one the E.B. Railway extended from Calcutta to Dhubri in 1902 and the other, the A.B. Railway extended from Chittagong to Dibrugarh in 1904. Five years later the E.B. Railway came as far as Amingaon and the total railway length increased to about 1,000 kilometres.

By 1915 Assam (with about 1,520 kilometres of railways) was twenty years behind Burma from the point of railway coverage. After 1915 the role played by the government for construction of branch lines was important. It was thought that branch lines would develop the province and improve the earnings of the A.B. Railway by acting as feeder lines and, hence, further inducements and special terms were necessary to attract private capitalists. The Assam Government was authorised to supplement the financial assistance given by the Government of India to the extent of making good to the branch line company, for a fixed terms of years, the sum necessary to increase the rate of dividend to 4½ per cent on the paid up capital of the company when its net earnings were insufficient to admit of the payment of a dividend at this rate.

As a result the period 1915-30 was characterised by important branch line construction in Assam. As many as three branch lines came

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25 The government was authorised under the Government of India Resolution No. 1894/86P. of 1915 (N.A.I.: Railway Department: Delhi Records 1915: Proceedings February 1915, Nos. 53-57)
into being within a decade, namely, the Chaparmukh-Silghat line (about 80 kilometres, opened to traffic in 1920), the Katakhal-Lalabazar line (about 40 kilometres, opened to traffic in 1924) and the Simaluguri-Naginimara line (about 16 kilometres, opened in 1917). Similarly, just before the Great Depression of 1930's, we find that the Furkating-Badulipara-Jorhat (about 64 kilometres), the Karimganj-Longai Valley and the Senchoa-Moirabari line (about 24 kilometres) were opened to traffic. The E.B.Railway also kept pace with the J&JinRailway when it extended the line from Tangla to Balipara, a very backward and isolated place in the northeastern part of Assam, in 1932-33. During the next decade, with the Second World War looming large, railways showed the best period of coordinated work with high operational efficiency.

As regards the progress of railway extension in Assam it appears that approximately the following lengths were opened during various periods: 1882-99 381 kilometres, 1901-10 757 kilometres, 1911-20 53 kilometres, 1921-30 228 kilometres, 1931-40 84 kilometres, 1941-43 20 kilometres. Thus 1901-10 was by far the best decade from the point of railway extension in Assam. Another interesting point was that in the first decade of this century (by 1904) when Assam had about 150 miles of metalled roads the railway length was 1.5 times this figure. Similarly when by 1929 Assam, including Sylhet district had about 900 kilometres of metalled roads the railway network was about 1,400 kilometres. Even by 1943 Assam had only 1,688 kilometres of surfaced road as compared to more than 1,800 kilometres of railways.

In the study of the railway development in Assam we find some

26 G.O.I.: Ministry of Railways: Supplement to the History of Indian Railways 1968, pp.122-148
27 G.O.I.: Imperial Gazetteer of India (1908), volume VI, p.30
28 G.O.A.: Pennel - A Short Account of Recent Development of Road Communication in the Province of Assam 1939, p.4
important surveys for construction of lines although these lines have not yet seen the light of the day owing to various reasons. One such survey was made in 1895-96 for a railway route over the Patkoi range and via the Hukong Valley to link the railways in Assam with the Burma railway system. Later on in 1896 the Railway thought that the construction of this line was not justified from commercial, political and military angle. As to railway connection between Burma and the Chinese province of Yunnan, Lord Curzon considered it "Midsummer madness" as there were other most lucrative fields of investment. The question of re-survey for this line revived again in 1920-21. In 1918-19 the E.B.Railway made a preliminary engineering survey for linking Shillong with Pandu and it was found feasible for a 2'-6" gauge line but the traffic prospects did not appear to be very much bright. Another important project for which there is much agitation today, namely, Pandu-Goalpara-Bongaigaon project, was investigated by the E.B.Railway in 1928-29. The A.B.Railway also pressed for early construction of a Gauhati-Goalpara railway line. In 1946 again this question engaged attention and an investigation was carried out by the Bengal Assam Railway for a metre gauge line and a bridge at Jogighopa. The Goalpara district (especially the south bank of the Brahmaputra) and the Garo Hills, which are very rich in natural resources are, in fact, not at all touched by any railway line and it was perhaps for these reasons that survey was made again to connect Siju with Pandu and the actual survey was done from Dudhnai to Darrangiri in Garo Hills.

Eastern Bengal Railway

Registered in 1857, the E.B.Railway's role was limited to the
western and a part of the northern Assam, as it gradually extended from the west in its early development. In spite of its slow growth it played a vital part in opening up vast isolated territories on the north bank of the Brahmaputra as far as Balipara. The E.B. Railway expanded towards the east on the north bank of the Brahmaputra while the A.B. Railway, discussed in the following pages, extended from the south to the north-east part of Assam along the south bank of the Brahmaputra. The credit for extension of this railway towards Assam goes to the Indian Tea Association without whose pressure perhaps this metre gauge line would not have come as far as Dhubri by 1902, although the North Bengal State Railway planned to extend a line to Jogighopa, opposite to Goalpara town as early as in 1874. It was expected that the completion of through communication by rail with the recruiting district would check the abuses of the system of importing tea garden labour and stimulate free immigration. Although the general opinion is that Assam was connected with other provinces by the E.B. Railway only for tea interests, a deep probe into records of 1883 shows that the Government of India emphasised such connection for many advantages like supplying Assam with the redundant labour, of pouring grain in time of famine into province of Bihar and of opening up some of the richest portions of the country. This railway was purchased by the Government in 1884, and in 1942 it was amalgamated with the A.B. Railway. The impact of this railway on a part of the Assam economy was felt when the A.B. Railway acted more or less like a feeder line to this railway and helped connections with the Calcutta port.

31 The first railway line in India was opened about 50 years earlier.
DEVELOPMENT OF RAILWAYS IN ASSAM IN THE LAST PART OF THE NINETEENTH CENTURY (1889-90)
Dibru Sadiya Railway

In 1881, twenty years after the inception of the organised river service in Assam, the A.R. & T. Company Limited was incorporated for construction of a railway line (about 80 kilometres) from Dibrugarh to Sadiya (as shown in Map 4). The Company visualised a bright future as it was not only associated with tea, its other interests were coal, valuable timber and petroleum, which could be exported outside. In May 1882, after one year, the railway history in Assam started when the first metre gauge locomotive passed between Dibrugarh steamer ghat and Jaipur Road. By 1884 the railway line had been extended to nearby coal fields by a branch line (about 40 kilometres) from Doomdooma to Makum. Although initially this railway was proposed to serve tea gardens numbering about 60 with about 20,000 coolies and importing 150,000 maunds of rice and exporting 60,000 maunds of tea, in view of the worst cart track, it was subsequently found that the line to coal field was of greater importance.

The impact of the D.S. Railway on the economy of the region was immediately felt. In 1880 the Doomdooma factory imported 3,000 maunds of coal from Raniganj, which arriving at Dibrugarh by river steamer, had to be brought in small boats about 50 miles up the Dibru river and landed, after a total journey of about 1,000 miles, within 25 miles of the Makum coal field as such according to experts the freight from Raniganj to the Upper Assam raised the cost of the coal more than ten times its value at the pit-head.

35 As per contract land was provided by the government free of cost to the Company.
36 This shows similarity with Great Britain where the early lines had their origin in coal fields. (Sherrington, C.E.R.: The Economics of Rail Transport in Great Britain, volume I (1928), p.
37 Gawthrop, W.R.: Ibid., pp.8-9
By 1888 one mixed and one goods train ran each way throughout the year and the main traffic were coal, grain and pulse and tea. After about a decade of operations of the D.S.Railway, its Chairman claimed that by 1894 the volume of goods per mile carried by this railway in the Upper Assam was more than on other metre gauge railways in India. A study of the Railway Reports also reveals that this railway was functioning efficiently with profit. Its earnings per mile per week were higher than the A.B.Railway and the proportion of expenses to earnings was lower than that of the latter during the first two decades of its existence.

In the success story of the D.S.Railway we cannot ignore the help rendered by the Government: the expenditure incurred by the Government during 1888-89 on this railway was about Rs. 1.04 lakh of which Rs. 1 lakh was on account of the subsidy paid to the A.R. & T. Company.

By 1909 this railway was extended to Saikhoa. It was found that although the length of this railway was only about 128 kilometres, it served a large number of important tea gardens and greatly helped export of coal and oil from Makum area. Amongst the important developments that followed the construction of this line were the formation of the Makum Tea Company in 1892, the Assam Oil Company in 1899, the Namdung Tea Company in 1916 and the growth of saw mills and brickworks. The Margherita plywood factory, set up in 1924, also became the pioneer for manufacture of three-ply tea chests.

By 1917 the rolling stock of this railway was plentiful and modern in character and included 55 locomotives, a large number of the latest type of goods wagons and up to date bogie passenger carriages.

39 Railway Board: Reports on the Railways in India
fitted with electric light and fans.

In 1920-21 Mr. T.R. Nolan, the Acting Agent of the A.B. Railway, deposed before the Railway Committee that the A.R. & T. Company did much to develop local industries in northern Assam. He stated that the activities of this Company included the development of coal mines, oil fields, tea plantations, forest produce, saw mills, tea chests and bricks and tile factories. This Company developed the oil field and subsequently formed a separate undertaking, the Assam Oil Company, to take it over. All these industrial developments were carried out along-with the working of the D.S. Railway.

In spite of aforesaid impact of this railway on the economic development of the Upper Assam, at certain times the views of the representatives of the tea industry were not in favour of this railway as it was opined that the degree of monopoly exercised by the D. S. Railway was harmful to the tea industry. The Chairman of the Assam Branch of Indian Tea Association deposed before the Railway Committee of 1920-21 that the D.S. Railway, which was not state-owned, had a monopoly which was harmful to the tea industry and more especially to the inhabitants of the district it traversed. To quote him:

"the two main arteries of communication in Assam are the Assam Bengal Railway from Chittagong to Tinsukia and the river steamers from Calcutta to Dibrugarh. The Dibru Sadiya Railway runs at right angles to these and is the connecting link with both and therefore controls the booking of outward and inward goods for stations on its systems, and is in a position to charge freights out of all proportion to the mileage that it conveys them, with the result that food prices are unduly inflated and all commodities cost more than they should". 43

The contention of the D.S. Railway, on the other hand, was that owing to existence of short lead it was compelled to charge high freights to

42 Ibid., Para 4561, p.71
43 Ibid., volume IV, p.280
cover the cost of working. The tea industry advocated that the high cost of working or 'uneconomical' working of the railway might be corrected by working this short D.S. Railway as an extension of the A.B. Railway!

In April 1942 the Government of India assumed responsibility for this railway by paying a fixed rental and it played its due role during the inter-war period. This line selected an important alignment and was, therefore, of great value in the construction of the Ledo Road, with which in 1942 the Government of India wanted to connect Assam with Burma and China. The tremendous impact of this railway during the Second World War can be realised from the following lines:

"The traffic over the Company's railway was tremendous and diverse. It included labour and stores for the Indian Tea Association and military projects; refugees from Burma; railway construction materials; Indian, Chinese, British and American soldiers, doctors and nurses; Lend-Lease materials for China; stone for roads and airfields; bulldozers for the Ledo Road; wounded men from Burma; supplies for the civil population; stores for service and maintenance of airfields; Assam coal for railways and river steamers; Assam tea for export to Europe and elsewhere; and exports from China to her allies, ferried over the "Hump" by U.S. Air Transport Command." 44

Of course, all these were done at the cost of civil supplies and the passenger trains were reduced to half of the pre-war figure. The Company's workshop at Dibrugarh also greatly helped in repairing the locomotives of the Bengal and Assam Railway (which came into existence in January 1942) during the War. In 1944 when the United States Military Railway unit took over operational control of the line it was admitted that this line was a vital link in the American supply life-line.

In April 1945, after nearly 65 years of establishment, the D.S.

Railway and the Colliery Line were purchased by the Government and amalgamated with the B.A. Railway, when the Government already spent a huge sum in constructing new sidings and buildings, in addition to expenditure on plant machinery, locomotives and rolling stock to meet military needs.

So far as the working of the D.S. Railway is concerned, the receipt from merchandise was much more than the receipt from passengers. In 1883-84 and 1884-85 the railway incurred loss (Rs. 31,736 and Rs. 79,050 respectively) but since then yearly profits increased from about Rs. 1 lakh to about Rs. 16 lakhs in 1930-31 and Rs. 9 lakhs in 1940-41. All these show that the D.S. Railway had a successful business. Furthermore, the railway employed as many as 1,154 local people in 1883-84.

**Assam Bengal Railway**

The impact of railways in Assam is to a great degree the impact of the A.B. Railway as it was the only railway which connected

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45 The Ledo and Tikak-Margherita Colliery Railway (3'-33/8" gauge) was constructed by the A.R. & T. Company in 1883 and was used originally for the purpose of bringing coal from the mines on the south bank of the Dihing river to the D.S. Railway. In January 1897 it was constituted a railway and its working was taken over by the D.S. Railway. This is an example of railway enterprise without any state assistance to develop local coal. (Sanyal, N.: Development of Indian Railways 1930, p.162) With an open kilometreage of about 12 and a total capital outlay of about Rs. 16 lakhs its gross earnings were about Rs. 80,000 between 1904 and 1913. The percentage of net earnings on total capital outlay in 1904, 1913-14, 1920-21, 1930-31 and 1940-41 were 0.60, 2.41, 1.43, 6.04, and 3.17 respectively.

46 The idea of the A.B. Railway became a reality when during 1883-87 a detailed survey of the Tinsukia-Chittagong route was made and it was found to be feasible. However, as we already noted, the Commissioner of Assam was in favour of a line parallel to the Assam Trunk Road. But the Government of India thought that the area was already served by the steamer services and 'a railway should be farther from the river and open up undeveloped country'. (Prendergast, W.H.: A Sleepy Tea and Jute Railway: The Journal of the Assam Research Society, volume XI, January-April 1944, Nos. 1 & 2, p.19)
interior parts of Assam with outside world in addition to connecting a large number of tea producing and other areas. The original purpose of the A.B. Railway was the development of trade and resources of Eastern Bengal and Assam.

It was in 1892, about thirty years after the inception of the organised river service (when India had already about 28,632 kilometres of railways) that the A.B. Railway Company was formed. It had the longest length with three main sections, one from Chittagong to Cachar, another in the Brahmaputra Valley from Gauhati to Tinsukia and the third one from Lumding to connect the first two sections. In view of the triangular shape of the then Assam Province this railway network appeared to be suitable from the point of covering a large area. There was a mixed feeling when the line was to be constructed. In spite of reactions the A.B. Railway started construction works and by 1898 completed the Chittagong-Cachar section. The Administration Report for 1898 shows that this railway carried a large volume of railway materials (about 4 lakh tons out of total traffic of about 5 lakh tons) for

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47 Assam Bengal Railway: Address by the Chairman, Annual General Meeting, November 14, 1922, p.2

48 As per terms of contract, land was provided by the Government free of cost and profits were to be divided in proportion to the capital provided by the Secretary of the State and the Company. The rate of interest guaranteed by the Secretary of the State was 3% for the first 6 years and thereafter 3% per cent. Bell strongly commented on this contract and stated that the construction of the A.B. Railway was not urgently needed and that two-thirds of its length was of no practical value to the province of Assam. (Bell, H. Railway Policy in India, pp. 15-16) Other Indian writers were also critical as they contended that this railway was constructed to please the English Planters who had sunk capital in Assam tea estates and that "the Secretary of the State gave a sterling guarantee in their case against the declared policy of the Government of India in favour of rupee guarantee." (Prasad, A. Indian Railways 1960, p. 60)

49 Some planters apprehended that labour shortage would be more acute owing to railway construction and maintenance work and that bad characters and disease would come in along with the railways.
construction works.

The Hill Section, commencing at Bihara - 262 miles from Chittagong and extending for about 110 miles to Lumding junction, took eleven years to build (up to 1903) and is a testimony to the unique engineering skill of the railway engineers. The steepest grade was 1 in 37.40 for 9 miles. While approaching the Hill Section the train rises from an altitude of 117 feet to an elevation of about 1,860 feet until it descends into the plains of the Upper Assam. There were 37 tunnels, aggregating 15,569 feet in length, the longest tunnel being 1,922 feet, in addition to 560 bridges. The fact that marvellous railway tunnels were built in the last part of the nineteenth century demonstrated the possibility of capital formation primarily with labour. This Section ran through shale of the worst description, often intermixed with bands of kaolinite, which swells when exposed and causes heavy slips, or exerts immense pressure on the sides of the tunnels, and as such heavy masonry was required, cuttings had to be arched in and special measures had to be taken to allow the drainage to escape. Cornish workers had to be imported as this line contained not only tunnels and covered ways but also major bridges. It was said that for every sleeper laid in the Hill Section and the Lanka-Manipur Division a man died. There were difficulties of labour and food supply in addition to technical problems. The Imperial Gazetteer of India mentioned that at one time, in addition to the railway material, food for more than 25,000 men had to be carried into the hills on elephants, bullocks, ponies, and other pack animals. As the cost of construction of the Hill Section was extremely heavy this Section was looked upon by many as the main cause

50 The Imperial Gazetteer of India, volume VI, 1908, p.77
of the A.B.Railway's unfortunate financial position.

As the A.B.Railway was designed initially for the transportation of tea and jute to the Chittagong and the Calcutta port the line was extended from Chittagong via Badarpur to tea growing areas of the Upper Assam and to jute growing areas of Mymensingh and Dacca via Bhairab Bazar. The railway was also extended to Chandpur so that the traffic could move by steamer to Goalundo and then by the E.B. Railway (broad gauge) to the Calcutta port.

By 1904 the A.B.Railway line entered the then Lakhimpur district at 556th mile from Chittagong and thus Bengal and Assam were linked and through communication by rail started between Chittagong and Dibrugarh. Thus, the Hill Section between Lumding and Badarpur (161 kilometres) - a vital section, started functioning in 1904. Soon after the opening, this Section had to be closed for 2 months for goods traffic and about 6 months for passenger traffic owing to numerous slips and washouts. Then in 1913 after a heavy rainfall this Section

51 It may be noted that there were controversies about the alignment to be followed in railway construction towards Assam. One view was that instead of extension from Silchar (to Lumding, and from Lumding to Dibrugarh and a branch line from Lumding to Gauhati) an extension from Mymensingh round the foot of the Garo Hills to opposite Dhubri, and then up the Assam Valley on the left bank of the Brahmaputra to Gauhati and Dibrugarh would be a preferable route, affording better railway accommodation to the province of Assam and likely to obtain a larger traffic than the extension from Silchar. (N.A.I.: P.W.D.: Railway Construction - Original Record 1885, January No.101) But later on the cost of following this route was found to be prohibitive. Another reason for abandoning this alignment might be the existence of riverways along this route.

52 In 1898 lack of proper facilities at the Chittagong port was one of the causes of low export traffic of the A.B.Railway. Another cause was the dependence of the A.B.Railway on the R.S. N. Company, as a result of which traffic via Chandpur was not up to expectation. Much of the difficulty was over when the Secretary of the State for India sanctioned construction of the first jetty by the A.B.Railway Company at Chittagong.

53 On February 16, 1904, while performing the opening ceremony at Chittagong, Lord Curzon said: "It has given me the greatest pleasure...to take part in a ceremony, which I believe to be invested with so much importance for the future of... Assam... for the last spike which I drove was the symbol of the completion of one of the costliest and most difficult Railway enterprises." (The Journal of Assam Research Society, January-April 1944, volume XI, p.26)
was kept closed for goods traffic for about 15 days. Then in 1915 it was closed for 2 years and reopened after incurring works expenditure of Rs. 34 lakhs. Troubles continued to persist till July 1916 when traffic had to be closed for 20 days.

In 1904 Lord Curzon was right when he said:

"I feel, therefore, Gentlemen, that we ought all of us to be in good spirits today for we are inaugurating an era of great possibilities." 55

In 1904 the gross earnings of the A.B.Railway were Rs. 29.50 lakhs, and in 1929 it reached Rs. 230.75 lakhs; the number of passengers increased in the same period from 2.25 millions a year to over 13.50 millions. In 1904 the total value of the trade of the port of Chittagong was Rs. 392.25 lakhs, in 1927-28 this rose to Rs.1,852.50 lakhs. Thus since 1904 the A.B.Railway continued to exert its impact.

"Tea and jute are the most important articles of the export trade, representing 89 per cent of the whole foreign trade and 97.6 per cent of the foreign exports. In the last five years the figures show an increase of 50 per cent in jute and 300 per cent in tea a result which is entirely due to the facilities afforded by the Assam Bengal Railway." 56

In 1902-03 the most important article of export from Assam to the Chittagong port by the A.B.Railway was tea. Other articles were husked rice, gunny bags, iron and steel - wrought, til seed, railway materials, stone and lime. In 1904-05 when the two Valleys were connected by rail, the traffic increased as expected: tea export to the Chittagong port by the A.B.Railway was about 4.3 lakh maunds, 2.8 lakh maunds from the Surma Valley and 1.5 lakh maunds from the Brahmaputra Valley, mainly from the Upper Assam, whereas in the previous year it

54 Nolan, T.R.: Slips and Washouts on the Hill Section (1937), Cyclostyled Paper, p.2
55 The Assam Review, September 1934, p.47
56 Report on the Administration of Eastern Bengal and Assam 1905-06, p.vii
57 G.O.A.: Report on the Rail and River-borne Trade of the Province of Assam 1902-03, p.40
was only about 3.2 lakh maunds.

The export of tea and jute by railway through the Chittagong port shot up since 1903-04 and the imports chiefly salt, oil, tea machinery, corrugated iron sheets and miscellaneous goods showed steady increase. Another important development of the opening of the Hill Section was the beginning of diversion of traffic from steamer to rail and introduction of element of competition:

"a considerable part of the tea traffic of the upper Brahmaputra valley districts, which had previously been conveyed to Calcutta by the Steamer Companies' vessels now go via the hill section to the Chittagong port". 60

The late Noakhali Railway was also worked by the A.B. Railway Company to the end of 1905 and was purchased by the Government and amalgamated with this Company from January 1906 and it helped the movement of traffic.

By this time it was felt that the traffic movement would have increased further had there been more rail capacities:

"The development of trade in jute and tea would have been much greater but for the defective arrangements between the River Steamer Companies and the Assam Bengal Railway Company for the traffic from Narayanganj via Chandpur to Chittagong and for the insufficient supply of railway wagons ... the export trade was considerably handicapped also by the insufficiency of railway wagons". 61

59 The value of tea and jute exported from Chittagong to foreign ports increased as follows

<table>
<thead>
<tr>
<th>Year</th>
<th>Tea</th>
<th>Jute</th>
</tr>
</thead>
<tbody>
<tr>
<td>1901-02</td>
<td>55.59 lakhs</td>
<td>87.51 lakhs</td>
</tr>
<tr>
<td>1903-04</td>
<td>127.10</td>
<td>109.22</td>
</tr>
<tr>
<td>1904-05</td>
<td>145.10</td>
<td>104.62</td>
</tr>
<tr>
<td>1905-06</td>
<td>155.79</td>
<td>125.18</td>
</tr>
</tbody>
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(Compiled from Reports on the Administration of Eastern Bengal and Assam)

60 G.C.A.: Report on the Administration of the Province of Assam 1904-05, p.32; Chittagong, which was formerly a sleepy, quiet old town, had 4 jetties, dry docks and 21 hydraulic cranes by 1917

61 Report on the Administration of Eastern Bengal and Assam 1906-07, p.ix and p.47
Hence various factors combined together to make river transport the primary means of transport. During 1906-07 about 54 per cent of the registered imports and the same proportion of the exports of the province were carried entirely by riverways. The rest was carried by rail. Even in trade with Calcutta, in which railways enjoyed immense advantage over river transport (especially over country boats), 57 per cent of the imports and 48 per cent of the exports were carried by river.

An analysis of working between the period 1895 and 1913-14 showed that mileage opened increased about seven times (from 129 to 811), total capital outlay increased from about Rs. 4 crores to Rs. 15.70 crores, and net earnings increased from a negative figure of Rs. 8,047 to about Rs. 22 lakhs. The percentage of net earnings on total capital outlay varied during these years between 0.8 and 1.45 only. And in 1913-14 the loss to the State was about Rs. 26 lakhs.

By 1917 the Company had about 110 locomotive engines, more than 3,000 covered goods wagons (18' in length) and 100 covered bogie goods wagons (of 17½ tons capacity) and a large number of coal trucks 62 holding from 10 to 20 tons. However, out of the total registered trade by rail and river, 51 per cent of imports and 62 per cent of exports were still carried by river. The most depressing factor from the point of economic development was that girders, rails, rolling stock and other heavy materials were purchased by indent on leading manufacturers in England.

Chaparmukh Silghat Railway

The Chaparmukh Silghat Railway (2'-6" gauge) with a route

62 Playne, S.: Bengal, Assam, Behar and Orissa (1917), p.369
63 G.O.A.: Report on the Administration of the Province of Assam 1918-19, p.18
kilometre of 81.80 was constructed by the A.B. Railway under the guarantee system on behalf of the Chaparmukh Silghat Railway Company. It was opened for goods traffic in March 1920 and for passenger traffic in August 1920. The A.B. Railway maintained, managed, worked and supplied with rolling stock to this railway for 50 per cent of its gross earnings. The total capital outlay was about Rs. 28 lakhs and net earnings in the first year amounted to about Rs. 65,000. By 1963-64 its net earnings increased to about Rs. 1.5 lakhs with a capital outlay of about Rs. 36 lakhs. The Chaparmukh Silghat Railway is still owned by Messrs Martin Burn Limited but worked by the N.F. Railway whereas the adjacent Senchoa-Moirabari section is owned as well as managed by the N.F. Railway.

In 1924 the Chairman of the A.B. Railway stated that the decision of the Government of India that the working of the Dacca-

64 On the question of the purchase of this Railway by the N.F. Railway the Public Accounts Committee in its Fifty-third Report commented that "the purchase was not considered financially justified as the return on the purchase price (Rs. 40 lakhs), fell short of the accepted standard of remunerativeness". (Lok Sabha Secretariat: Public Accounts Committee 1965-66: 53rd Report: 3rd Lok Sabha, p.120)

According to the Agreement, the purchase price would be a sum equal to 25 times the average yearly net earnings during the last 3 years immediately preceding the date of termination of the Agreement subject to the condition that the amount so payable shall not exceed by more than 20 per cent of the total capital expenditure of the Company as appearing in the capital account of the Company or be less than such total capital expenditure.

(It may be noted that as regards the Katakhal Lalabazar Railway also the Public Accounts Committee 1965-66 in its Fifty-third Report stated: "in 1964 ... the purchase of the railway at the price payable under the agreement was not found financially justified - as the return on the purchase price (Rs.18.19 lakhs) was estimated at 2.76 per cent - which is well below the rate of interest on Government borrowings. An indication was however given to the Company that Government would be willing to consider the purchase of the Railway outside the terms of the agreement, should the management wish to sell it at a negotiated price ... The Company, however, did not evince sufficient interest to sell the Railway outside the agreement").

65 As per Agreement dated 14.11.1918 between the Secretary of the State for India and the C.S. Railway Company, the N.F. Railway retains 50 per cent of gross earnings of the Section for its working and maintenance.

66 A.B. Railway: Annual General Meeting 1924
Mymensingh Railway should not be transferred from the E.B. Railway to the A.B. Railway was a misfortune: by this, the Chairman said, the development of the A.B. Railway and its power to serve rich and populous districts was seriously and permanently crippled.

Apart from the loss of coverage of important traffic-producing areas in its zone of operation the A.B. Railway had the problem of finance for expansion. Mr. Nolan, the Acting Agent of this railway stated:

"The Assam Bengal Railway has been starved. During the 25 years it has been opened, it has only been able to construct 90 miles of extensions from money provided by the Government. Of this 90 miles, 30 miles was the Sylhet Branch which was built under pressure from the Government of Assam and which the Company were not at all anxious for as it did not present such favourable prospects as extensions into Eastern Bengal". 67

Mr. Nolan was of the opinion that relatively less money had been provided for extension into new country on the A.B. Railway than on other systems. It was deposed before the Railway Committee of 1920-21 that during the same period funds were provided by the government for construction of branch lines and extensions of other railways (namely, Burma Railways - 364 miles, E.B. Railway - 621 miles), and that other railways received more favourable treatment from the government.

By 1920-21 the operating expenses of the A.B. Railway was quite high mainly because it included the Hill Section which was expensive to work. But as regards return, as Mr. Nolan, the Agent said, it

67 Report of the Committee appointed by the Secretary of the State for India to enquire into the Administration and Working of Indian Railways, volume III: East India Railway Committee 1920-21, London, paragraph 4555, p.71
68 The same view was expressed by Mr. Playfair, the Chairman of the Assam Branch of the Indian Tea Association. (Report of the Railway Committee 1920-21, volume IV, p.282) He went further to say that a province like Assam should have a representative in the Railway Board. Mr. Taylor, the Chief Operating Engineer of the Assam Railway also opined that little or no money was available for improving the equipment and rolling stock in Assam. (Report of the Railway Committee 1920-21, volume IV, Enclosure III)
depended mainly on the districts through which a railway passed than on other considerations. The A.B. Railway was built to develop backward districts and for strategical purpose and hence it could not yield for many years suitable return. Considering from these points, it was opined, the A.B. Railway should have received some encouragement or incentive in the form of 'a bonus for good management'. Mr. Nolan opined that the A.B. Railway was eager to welcome schemes for construction of branch lines which might help development of industrial undertakings. To his mind, a newly opened out province like Assam had scope for commercial undertakings and if such enterprises were closely associated with a railway then railway would also gain by the profits of extra traffic. In fact, Mr. Nolan realised the cause and effect relationship between railways and economic development in an undeveloped region like Assam.

Towards the 1930's an interesting trend was noticeable. Owing to many advantages most of the traffic of the A.B. Railway moved towards Calcutta instead of Chittagong and the A.B. Railway was acting like a feeder line to the E.B. Railway. Owing to existence of a tough competition with river transport the A.B. Railway appeared to have worked in unity with the E.B. Railway. On some occasions trade was found to be artificially diverted to Calcutta although Chittagong was comparatively nearer to some of the rich jute and tea districts. The competition and combination between the E.B. and the A.B. Railway as well as between the railways and the water services for the transport of rice, jute and tea were the potent factors affecting the impact of railways in Assam during these years. The charges, characterised by low lump-sum rates for the tea traffic from different areas to Calcutta,
were found to have been fixed more on consideration of competition than of the distance. But the consideration of competition was stretched to such an extent that in their eagerness to capture the traffic to each of their own ways the rail and the river transport were found to have ignored the interests of trade and commerce. The railway rates were to a great extent determined by the rates on steamer services.

Around 1938-39 the A.B.Railway found that earnings from four commodities (kerosene oil and petrol, tea, rice, jute) represented nearly 60 per cent (about Rs. 65 lakhs) of the total earnings from goods carried for the public.

Bengal and Assam Railway

On January 1942 the A.B.Railway, with a route length of about 1,133 miles, was amalgamated with the E.B.Railway and named the Bengal and Assam Railway. At this time the A.B.Railway had 203 locomotives, 908 coaching vehicles and 5,709 goods wagons. In 1942 the role of the Bengal and Assam Railway was perhaps at its peak. When the refugee traffic from Burma, sometimes 3,000 per day, arrived Assam via Manipur and Silchar the Railway played a magnificent part.

"To avoid congestion at Manipur Road, arrangements were made to divert the evacuee trains via Dibrugarh, Tezpur and Rangapara North. Up to the end of April, Chittagong had dispatched by rail about 2 lakhs of Burma refugees about half of whom had had their fares paid by Government, as they were destitute... By the time the Silchar route was closed about 64,000 to 88,000 refugees from Burma had been cleared via Silchar." 73

71 A.B.Railway: Speech of the Chairman: 69th General Meeting at London, December 5, 1939
72 B.A.Railway: Annual Report 1941-42, p.1
73 Ibid., p.3 The railway also helped the various organisations in supplying the refugees with food and shelter.

The D.S.Railway too claimed that soon after the mass movement of evacuees from Burma ended the demand for railway became heavier and in the first two years of the emergency net ton miles were nearly...
In June 1942 when the refugee traffic was at its peak the line between Lalmanirhat and Amingaon was breached in many places. Not only this was repaired within five months but special measures were taken to prevent such recurrence.

In the first part of 1942, there was substantial planning for the carriage of warlike stores and equipments into Assam. The Railway Board favoured that the strain on the Amingaon-Pandu ferry should be reduced. An important problem was the limited storage capacity of oil refinery at Digboi which necessitated a constant and regular outflow, or the refining process would have to be retarded or stopped. If the kerosene oil were to be exported out of Assam in tank wagons and routed via the Pandu ferry these would take up ferry capacity required for other essential purposes. And hence the Defence Department planned to export oil up to Tezpur by river transport and then from Tezpur by rail so that the Pandu-Tinsukia section could get partial relief. As the Digboi refinery had maximum output of petrol of about 16 lakh gallons per month they wanted that their products should be given the same priority as the Army traffic. At this time although 'Rangiya-Rangapara North was only a development line with stations very far apart, sand-packed and with a speed restriction of 20 miles per hour' it provided an alternative route, the other route was Pandu-Tinsukia.

The Defence Department was found to be cooperative as it confirmed that in all planning of emergency movement of military personnel and stores on the metre gauge rail system in North East India, due allowance was made for the movement of essential oil traffic to the limit of the ferry capacity, which was 50 tank wagons per day. This problem of transport was important as the Digboi refinery was already shut down once when kerosene and other products could not move out. And this cut off the supply from Digboi of aviation and motor spirits which were essential for Defence Services in Assam. In spite of planning it
found that transport facilities were inadequate. The Assam Oil Company stated:

"due to restrictions in transport beginning at the end of March, our average crude oil throughput from 1st June to 30th June has only been 177,000 gallons per day which is less than the peace time normal. If our production of Aviation and Motor Spirits has to be increased to meet military demands, and if there is no corresponding increase in transport, other accompanying products will have to be destroyed and government will be asked to pay for this destruction. It will be seen that the total bill might amount to several lakhs of rupees a month. What is even worse is that for every gallon that is thus not despatched from Digboi an equivalent gallon will have to make the longer west to east journey from Bombay ". 74

It has been rightly said that " up to 1941 Assam was a sleepy backwater in which only the oil and tea industries made serious demands on rail and river transport ". But when Assam became a theatre of military activity, inward traffic caused a problem to railway operation and priorities had to be schemed to give preference to defence needs. And it affected supplies to civil needs. The problem to tea industry and the civil population increased in the middle of 1942 with the closure of the Chittagong and Calcutta port. Tea had to be exported from Karachi and Bombay, thus, covering a longer distance at a time of huge wagon shortage. At the same time many of the tea garden lorries were requisitioned for defence needs and hence road transport as a substitute for meeting civil needs was unthinkable even for short lead.

In 1943 the Government became alert and a Divisional Superintendent was posted at Gauhati (the headquarters of the Bengal Assam

74 N.A.I. Railway Board : September 1942, Proceedings No. 1815-TT/13 \B(52)


In December 1941 the capacity of the "Assam Lines of Communication" was only between 600 and 1,000 tons per day owing to low operating standards and lack of equipment and stations and terminal facilities, and about 1,000 tons per day by water. (Russell,G.N.and Gardiner, R.: Planning Development and Operation of the Assam Lines of Communication 1941-45 ; The Journal of the Institute of Transport, volume XXIV,March 1951, p.121 ). More capacity was needed for carrying materials for construction of air fields and the Ledo Road.
Railway being Calcutta) to supervise all operation of the metre gauge railway. When the three United States Railway Battalions arrived, responsibility for supervision of operation of the metre gauge line from Parbatipur to Ledo passed to the Director of the American Military Railway Service. A British Assistant Director of Transportation stationed at Gauhati began to direct all developmental works of civil and military authorities. About 80 per cent of the train crews remained Indian. In the early part of 1942 there was no proper centralised control and it led to complete chaos and virtual cessation of movement. However, the inter-war period showed the best period of coordination and planning; and in 1944 the tea industry got relief when wagons were assigned to the districts for carrying of tea and were allocated to the gardens by the branch Associations.

In August 1943 the Government wanted to carry 7,400 tons of military stores per day on the "Assam Lines of Communication". At this time the metre gauge railway line in Assam was "in a very low state of efficiency and indeed it had always been regarded as a very secondary line". The necessities of war brought the railways in Assam under one administration in Calcutta. On March 1, 1944 a Railway Grand Division of the American Transportation Corps took over and operated the railway line from Parbatipur to Ledo to strengthen the control when they convinced the Railway Board that they could operate the line to the phased requirement. The Military Railway Service emphasised more intensive traffic operation even at the cost of safety and they planned to increase train loads from 55 4-wheeled wagons to 110 or 125; other plans included increasing speeds, reducing key-locking at stations and better all-round supervision. The capacity of the wagon ferry (at the Brahmaputra) was quadrupled by providing additional craft and by efficient operation. In fact, an average of 250 wagons crossed per day was turned into one of over 1,000. The United States Army
successfully installed teleprinters and latest equipments to increase operational efficiency. The Assam Trunk Road was used to reduce the pressure of wheeled vehicles over the metre gauge railway. In spite of new technique of operation, accidents — especially mid-section derailments, were frequent and the M.R.S. was helpless in that most of the rolling stock were old and unsuited and this problem continued till the begining of 1944 when American locomotives and rolling stock began to arrive. To have coordination with river transport operational control of the river steamer companies was taken over by a Director of river transport. The overall control of all movement — military and civil, was done under a Deputy Director of Movements in Calcutta.

This period was in fact one of the best examples of integration of rail and river transport planned by the British and American military persons in order to secure the most efficient and economic use of available transport capacity consistent with military and civil needs. The achievement of the Assam Lines of Communication was conspicuous notwithstanding technical limitations:

"The total military lift increased progressively from 2,400 tons per day in January 1944, to 8,975 tons per day in April, 1945. Of this total, about 1,200 tons per day was petrol delivered in pipe lines, so it will be seen that the target figure of 7,400 tons for January 1946, was exceeded nine months earlier ... after April, tonnage began to drop as military operations in Burma came to an end. The breakdown of tonnages between rail and river was as follows: 5,500 by the all-rail route, 400 by the all-river route, and 1,900 by a combination of rail and river. These were all in addition to about four passenger trains, three mechanical vehicle trains and 1,100 tons of civil supplies per day ... One of the most remarkable things about these tonnages is that no less than 4,300 tons per day was petrol carried either in pipe-line or packed. This represents about 4,000,000 gallons per month, and it is interesting to compare this with the over-all monthly pre-war consumption of petrol in the whole of India which was 9,000,000 gallons". 77

76 Early in 1944 the Government of India placed control of use of the river capacity .
These achievements were great in view of the problems of river transport (like frequent change of ghats and lack of cargo handling facilities) and poor condition of the railway system which was meant mainly for tea, jute and oil traffic. The efficiency of the single metre gauge line was low and the block stations were often 15 miles apart. Moreover, everything moving from Calcutta to Assam involved transhipment from broad gauge to metre gauge and there was no road link with the rest of India. During the inter-war period railway's initial impact was felt when it carried vast quantities of materials for construction of runways for airfield near Jorhat in the Upper Assam. Both local traffic as well as through traffic from Calcutta increased.

In spite of so many problems and shortfalls in the railway system its marvellous contribution to the economy may be ascribed to better management of human resources, apart from the introduction of new equipments, a lesson to be drawn by the Indian Railways. When the wagon ferry was a headache, great pains were taken to ensure full wagon loading particularly at the transhipment point.

"The rated capacity of most Indian metre gauge wagons was 12 tons. Normal average loading was seldom more than half that, but the constant aim on the Assam Line of Communication was to ensure an average of 8 tons ... steps were taken to ensure the maximum useful capacity on the river Brahmaputra... Rapid turn round of barges was essential and much trouble was taken to organise labour adequately at loading and unloading points." 79

During the War the railways had a great strain and hence immediately after the War repairs and replacements of rolling stock and locomotives were urgent. Apart from these internal problems there were problems external to railways, such as the Calcutta dock strike of 1947 which

78 In 1942 the low rail and river transport capacity was also the result of despatch of metre locomotives, rolling stock and towing steamers from India to the Middle East and Iraq.
led to stoppage of all tea bookings to Calcutta by rail or by river. Export of tea via Chittagong at this moment was of not much help as the supply of wagon was inadequate.

The rate of growth of traffic on the A.B. Railway increased as expected. The total weight of goods carried increased from about 13,195 tons in 1897-98 and 456,739 tons in 1910 to 765,907 and 1,866,812 tons in 1920-21 and 1940-41 respectively. In 1897-98 the weights of coal and coke, iron and steel, cotton piece goods and tea were 43,420 maunds, 36,804 maunds, 7,434 maunds and 92,929 maunds respectively. In these decades the traffic of important commodities increased as follows:

Table 3.4 : Important Commodities handled by the Assam Bengal Railway

<table>
<thead>
<tr>
<th>Year</th>
<th>Jute</th>
<th>Grain &amp; pulses</th>
<th>Coal &amp; coke</th>
<th>Tea</th>
<th>Oil</th>
<th>Salt</th>
<th>Cotton</th>
</tr>
</thead>
<tbody>
<tr>
<td>1910</td>
<td>78,393</td>
<td>66,998</td>
<td>57,571</td>
<td>40,422</td>
<td>29,775</td>
<td>23,349</td>
<td>8,293</td>
</tr>
<tr>
<td>1920-21</td>
<td>128,606</td>
<td>131,482</td>
<td>99,080</td>
<td>53,532</td>
<td>80,061</td>
<td>48,364</td>
<td>5,989</td>
</tr>
<tr>
<td>1940-41</td>
<td>171,622</td>
<td>28,681</td>
<td>167,452</td>
<td>-</td>
<td>212,135</td>
<td>50,485</td>
<td>14,418</td>
</tr>
</tbody>
</table>

The number of passengers swelled as many as twenty-three times, from 0.7 million in 1896 to 16.3 millions in 1940-41 and the total passenger earnings rose from Rs.3.8 lakhs to Rs.8.1 lakhs during the corresponding period.

So far as financial results were concerned there was loss to the State as the net traffic earnings were much below the interest to be paid. The A.B. Railway's explanation of poor results is quite

80 Compiled from Administration Reports on Indian Railways.
81 "During the first quarter of the century till 31 March, 1925 the A.B. Railway was subsidised by the taxpayer to the extent of Rs.36 lakhs a year... Taking the average gain or loss for 1900-25, it will be noticed that all the lines with the exception of the Assam Bengal produced a net gain to government." (Natesan, L.A.: State Management and Control of Railways in India 1946, p. 112)
"what is often forgotten, viz., that the Hill Section of 115 miles costs 5 crores of Rupees and the Railway Jetties nearly 1 crore more out of a total capital of 15 crores, thus over 1/3 of the total capital is almost unproductive, and also 1/8th of the line is worked at a cost several times greater than the cost of working the plains sections of the Railway".82

Moreover, it was said that some lines seriously affected the traffic of this railway. The Jorhat State Railway, discussed in subsequent pages, instead of being a feeder to this railway, in certain years acted as a "bleeder" as the traffic within a certain radius of the Jorhat Railway stations, which was carried by the A.B.Railway, was attracted by preferential rates to this railway and the river route. Moreover, the break of gauge was a problem to the A.B.Railway Company.

"The break of gauge about two years ago caused a serious delay to certain traffic at Mariani for Jorhat, and the Main Line wagons were kept under load for days waiting for 2 feet gauge wagons: if there had been no break of gauge the metre gauge wagons would have run through with no delay. The cost of handling in case of break of gauge at this junction for some of the schemes under consideration if capitalised, will cost from Rs.50,000 upwards to Rs.1,00,000: these are large sums which can be saved..." 83

It was stated that the metre gauge was undoubtedly the suitable gauge for Assam feeder branches in view of the capital cost, the advantages of avoiding rolling stock shortages (as the main line stock would be available), and the cheaper working by the main line company. On the problem of gauge an experienced officer commented in 1915 that the metre gauge system should expand to small feeder lines in Assam and that break of gauge was a factor affecting the fate of railways in Assam:

"as regards local lines the development of traffic does not depend so much on growth of mileage as on growth of local industries. The Dibru-Sadiya metre gauge in 1886 with a mileage of 77\frac{1}{2} was earning 81 rupees per mile per week, today with a mileage of 86, its earning capacity is 303 rupees. This may be

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83 Ibid.
compared with the Bengal Dooars metre gauge which in 1893 with a mileage of 36½ was earning 69, but now with a mileage of 153 earns 312 on the original main line and 173 on the extensions. As regards the narrow gauge lines, the Tezpur Balipara 2' 6" gauge, 20 miles long has without increase of mileage increased its earning capacity from 80 rupees in 1901 to 105 rupees at the present time. Again, the Jorhat line 2' 0" gauge, 32½ miles, has increased its earning capacity from 40 rupees in 1884 to 82 at the present time. These examples tend to show that short lines when either isolated, or of different gauge to a connecting railway and independently worked, do not develop such high earning capacity as lines of similar length in similar country worked by a parent administration, but that longer lines may be worked profitably as independent system. 84

Although the average cost of construction in case of the A.B.Railway (metre gauge) was nearly Rs. 2 lakhs a mile and might be compared to the Great Indian Peninsula (broad gauge) with its expensive ghats, costing a little over Rs. 2 lakhs a mile, yet it was emphasised that in the question of railway development cheap capital cost was not the only factor: because the question of railway development was not a question of railway interests or of river interests, but of public interests. And if public interests wanted that the Province should be opened out, railways claimed that branch railways of metre gauge were preferable to roads:

"... the metre gauge should certainly be adopted, not only as a more profitable investment from the railway point of view, but as sound policy from the administrative point of view, looking to the future. For the purpose and effect of a pioneer railway is to create traffic, and the extent and subsequent development of this traffic, depends not only on judicious location but on accessibility. In this connection, apart from break of gauge, narrowness of gauge is a permanent bar to speedy transit on a long line, and is an argument for restricting the use of the narrow gauge to short lengths only". 85

The view of the A.B.Railway on the gauge policy in Assam was clear:

"it would be disastrous from the point of view of a future administration, for traders to be handicapped in the matter of gauge, as undoubtedly would be the case if the main line


During the first two decades of this century it was noticed that earnings of the railways increased not only with increase in mileages but with development of traffic with passage of time.

85 Ibid.
railway in Assam was provided with no connection except narrow 2 feet gauge feeders, ..." 86

A discussion of the above points leads us to feel that the main aim of the railways in Assam was not only to make direct profits on the lines, but also to have indirect benefits accruing from improved transport, such as general increase of trade and expansion of sources of primary commodities and growth of new markets for British manufactures of consumption goods like textile, hardware and cutlery.

Jorhat Provincial Railway

The Jorhat Provincial Railway (about 40 kilometres), comprising the Jorhat-Neamati and the Jorhat-Mariani sections, was originally known as 'the Kokila Mukh Tramway' or 'the Kokila Mookh State Railway'. The construction of this line (2' gauge) as a State

87 Desai, S.P., Report on the Land Revenue Settlement of the Kamrup District - March 1928, p.18

It may be inferred from the Table 3.3 that the A.B.Railway had the lowest percentage of net earnings on total capital outlay. During 1913-14, for example, the percentage of net earnings in various railways that were operating in Assam were : T.B.Light Railway 8.31, D.S. 5.50, J.P. 3.74, A.B. 1.51. The neighbouring E.B.Railway had 6.47 per cent of net earnings on total capital outlay. No doubt the percentage of working expenses to gross earnings were high but the gross earnings were also very low. With only 144 kilometres the D.S. Railway's gross earnings in 1913-14 were about Rs. 14 lakhs whereas with about 1,300 kilometres the A.B.Railway could earn only Rs. 70 lakhs in the same year. (Statistical Abstract for British India, volume I, 1915, p.195) The length of the J.P.Railway was almost same as the Cooch Behar Railway but its percentage of net earnings was lower than that of the latter. During 1913-14 and 1940-41 the percentage for the J.P.Railway were 3.74 and (-) 2.12 whereas the corresponding figures for the Cooch Behar Railway were 8.05 and 12.15 (Compiled from the Supplement to the History of Indian Railways - 1968). In fact direct profits on the lines were less important a matter than other indirect benefits.

The political power of British manufacturers of consumption goods played a part in the Indian Government's sanction and guarantee of some railways; but investment cannot be explained entirely in terms of economic imperialism. (Macpherson, W.J.: Investment in Indian Railways, The Economic History Review, volume VIII, No. 2, 1955, p.186)
enterprise out of the provincial revenues of Assam was approved by the Government of India in 1882 and the formal opening was done in 1883. This line and the rolling stock were owned and worked by the State till September 1927, after which the maintenance, management and working of the line were made over to Messrs Macneil and Company, Agents, R.S.N. Company and Messrs Kilburn and Company, Managing Agents, I.G.N. & R. Company.

Just like the D.S. Railway, this line was also primarily designed for serving the tea gardens, whose unmetalled roads to the Brahmaputra were useless in monsoon. As such many station names corresponded to tea garden names. The facilities rendered by this line were so vital that within two years of construction the Jorehaut Company thought it prudent to construct tramways to link their gardens with the railway. Thus, this railway was also feeder to the river transport and primarily helped tea industry. The local merchants also imported huge quantities of edible grains, salt, piece goods, molasses etc. and consequently imports increased at a faster rate than the exports.

In 1887-88, the traffic indicated a tendency to increase and the opposition to the railway that emerged in the past disappeared. The most important affair at this time was the attachment to the railway workshop of the Williamson Artizan School for the training of local boys as artizans. The line assumed so much popularity that when a suggestion was made by the Government of India in 1901 for transfer of the line to the A.B. Railway it was strongly opposed by the public and the Local Boards.

In 1909 agreement was made between this railway and the R.S.N.

88 During this period two mixed trains ran daily each way between Jorhat and the river terminus.
Company and the I.G.N.& R.Company for the interchange of tea traffic via Kokilamukh ghat. However, through booking of goods with the steamer companies did not start even then.

In October 1927 this railway was handed over to the J.S. Companies for management as agents on a profit-sharing basis for a period of ten years. The agreement was renewed on fresh terms for another five years by the Railway Board. The ownership of this line vested in the Government of India in April 1937 and it was added to the B.A.Railway on October 1, 1943, when a part of it was converted to metre gauge and part of it was dismantled.

This railway had more length than the T.B.Railway, discussed below, and the total receipt was also higher. As it was a narrow gauge line its working expenses were at times very high and had mixed years of profit and loss. The A.B.Railway was at one time compelled to state that:

"... had the Jorhat State Railway been a metre gauge line affording unbroken communication with the Assam Bengal Railway, it might have been worked at 50 per cent of the gross earnings, or for a sum of Rs. 65,043, or a saving of Rs. 25,196. Capitalize this sum at 4½ and it equalises Rs. 5,59,900". 90

To avoid slow speed and break of gauge it would have been decidedly better to have metre gauge in place of narrow gauge.

In 1945 the Titabar-Jorhat Junction-Kokilamukh... narrow gauge section which covered many tea gardens, was changed to metre gauge with

89 As early as in 1902 its total receipt was Rs. 88,774 as against Rs. 63,361 only in the T.B.Railway. This railway also employed about 200 local people in the beginning of this century.
90 "The Jorhat Railway has been quoted as an illustration of the success of the 2' 0" gauge ... since 1884 the earnings of this railway have never fallen below 40 rupees per mile per week except in 4 years early ... but on metre gauge feeder of the same length worked by the main line at, say, 50 per cent of the gross earnings, would probably not have involved more outlay ... and would have paid a profit of from 4 to 6 per cent per annum almost from the very first."

a new alignment - Titabar-Marlari-Jorhat Junction-Neamati (instead of Kokilamukh). There was also another section from Furkating to Jorhat Town, which touched many private and assisted sidings. After independence when the ownership of many British gardens changed, the new owners began to patronise road transport and as such some of the sidings have been closed.

Tezpur Balipara Railway

In 1894 the efforts of another private company led to the construction of another narrow gauge (2' 6") railway line namely, 'the Tezpur Balipara Light Railway', with a route kilometreage of 32. While connecting the Tezpur ghat with Balipara, it ran through a large number of important tea gardens having two daily services in each direction. This shows that like other railways, mentioned above, this railway was also a feeder to the river transport and the primary aim was to help the tea industry.

This railway proved to be successful financially from the beginning by paying an average of 5 per cent on the capital expended. Moreover, in various years the percentage of net earnings was the highest in this railway in comparison to all other railways in Assam. In September 1952 this railway was taken over by the State and merged with the North Eastern Railway. In April 1953 a portion of narrow gauge

91. The Government of Assam aided the Company by supplying, free of royalty, timber for sleepers worth about Rs. 13,000 from government forests for the first construction of the line and the Tezpur Local Board paid a subsidy of Rs. 5,000 per annum up to March 1914.

The government help came when the promoters appealed that "they were not actuated by any desire of personal profit. They have given their time ... solely in order to meet a very pressing public need, and to come to the assistance of the administration, who admitted their inability to maintain the public roads in a transitable condition during the rains, which is the period during which the tea crop is raised, and tea is the only article that forms the export trade of the district ... ".

(26.67 kilometres) from Tezpur to Rangapara North was converted to metre gauge and at the same time narrow gauge from Rangapara North to Balipara was abandoned.

Cherra-Companyganj State Railway

This 12-kilometre line (also known as 'the Theria-Companyganj Line') was a purely State Railway like the J.S.Railway constructed by the government without the intervention of the private capitalists. It was approved by the Government of India for transportation of goods traffic in 1883-84. The Assam Administration Report of 1892-93 stated that attempt to extend this line from Theriaghat to Cherrapunji was unsuccessful but the plains portion was worked with occasional profits. The principal traffic were limestone and stone. An analysis of working for about a decade in the last part of the nineteenth century shows that this line, having carried passenger as well as goods traffic, had years of both profit and loss. But interest appeared to be too high (about Rs. 25,000) continuously for a number of years. And the only positive impact was that the line gave employment to some local people. This line was closed for passenger traffic after the earthquake of 1897.

A deep probe into traffic figures of all the railways in Assam shows that initially the D.S.Railway handled more traffic (about four times more) than the A.B.Railway. In 1902 the D.S.Railway carried 505,180 tons whereas the A.B.Railway carried only 161,666 tons. Next to the A.B.Railway were the J.S.Railway and then the T.B.Railway, if we rank them on the basis of goods traffic handled. The A.B. Railway handled more tea, jute, grain and pulses, salt and cotton than the D.S.

92 Railway Board : Administration Report on Railways for 1902 p.131 and p.145
Railway. The D.S. Railway's major traffic was coal and coke carried for public and foreign railways, whereas the A.B. Railway's major traffic were jute, oil and tea. Moreover, the average rate charged per ton was much more in the D.S. Railway than in the A.B. Railway: the difference was much more in case of general merchandise (about 35.31 pice for D.S. and 6.82 for A.B. in 1902). Of course the average distance goods were carried was higher in case of the A.B. (87.08 miles) than in the D.S. (54.80 miles). Likewise, the A.B.'s passenger traffic was about five times (17 lakhs in 1902) more than the D.S.'s. Moreover, as in case of goods traffic the average distance travelled by passenger was more in case of the A.B. (36 miles) than in the D.S. (17 miles). The average rate charged per passenger per mile was also lower in the A.B. (about 3 pice) than the D.S. (49 pice). By 1910 also the D.S. carried more goods traffic than the A.B. but the earnings from goods traffic were more in the latter. By 1920-21 not only the A.B.'s earnings were more than the earnings of the D.S. but its goods traffic far exceeded that of the latter. Thus the impact of the A.B. Railway tended to increase more relatively as well as absolutely with the passage of time.

So far as the direction of traffic movement was concerned the A.B. Railway's connection was more with Calcutta and other parts of Bengal. However, amongst the alternative modes of transport the role of railways by 1900-01 was not so significant as in terms of weight the railways carried 11 per cent of the total imports and exports of the Surma Valley and about 16 per cent of the total trade of the

93 Almost all the trade of Assam was with Calcutta and Bengal (excluding Calcutta). The trade with provinces other than Bengal was less than 1 per cent of the whole. The greater part of the trade was with Calcutta, which sent 69 per cent in value of the imports and took 81 per cent in value of the exports. Bengal (excluding Calcutta) sent 30 per cent in value of the imports and took 18 per cent in value of the exports. (G.O.A.: Assam Administration Report 1899-1900, p.92)
Brahmaputra Valley. In fact the total traffic handled by railways varied owing to increase or decrease of exports and imports of various commodities in a particular year depending on the needs and production capacity of the economy.

Post-independence Era

With the independence the railways in Assam had to undergo a series of changes. The Assam Railway with its headquarters at Haodu came into being on August 15, 1947 when the B.A. Railway was divided according to the political boundaries. Amongst the most important effects of the partition were the loss of the Chittagong port and the loss of access to the Calcutta port except via Pakistan. Hence new and lengthy constructions were to be made involving huge cost, and transhipment across the Ganges and between broad gauge and metre gauge became inevitable. Moreover, the partition left the Assam railway without any important workshop.

The position of railways in Assam immediately after the independence may be evident from the Table 3.5 given in the next page.

During 1947-48 traffic exceeded the capacity of the railways. Added to it was the problem of customs formalities when with effect from March 1, 1948 Pakistan was declared to be foreign territory for the purpose of levying customs duties. Moreover, there were problems of shortage of wagons and over-aged rolling stocks.

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94 G.O.A.: Assam Administration Report 1900-1901, p. 71
95 As per agreement with Pakistan the metre gauge carriages and wagons of the Assam Railway were given periodical overhaul, intermediate overhaul and casualty repairs at the Saidpur Workshops of the Eastern Bengal Railway (then in the East Pakistan).
96 Land customs stations were established at Golakganj junction and Maishasan and goods were allowed to pass by land from and into Pakistan only over the specified routes.
Table 3.5 : Railways in Assam (March 31, 1948)

<table>
<thead>
<tr>
<th>Railway</th>
<th>Gauge</th>
<th>Route kilometres</th>
<th>Owned by</th>
<th>Worked by</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assam Railway</td>
<td>3' 3(\frac{3}{8})&quot;</td>
<td>1,808</td>
<td>Indian Government</td>
<td>Indian Government</td>
<td></td>
</tr>
<tr>
<td>Chaparmukh-Silghat *</td>
<td>&quot;</td>
<td>80</td>
<td>Branch Line Company</td>
<td>&quot;</td>
<td>* Line guaranteed by the</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Government of India and</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>received a subsidy from</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>the Assam Government</td>
</tr>
<tr>
<td>Katakhal-Lalabazar *</td>
<td>&quot;</td>
<td>40</td>
<td>&quot;</td>
<td>&quot;</td>
<td></td>
</tr>
<tr>
<td>Class III</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tezpore-Balipara</td>
<td>2' 6&quot;</td>
<td>32</td>
<td>Company subsidised</td>
<td>Tezpore-Balipara Light</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>by the District Board</td>
<td>Railway</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Company</td>
<td></td>
</tr>
</tbody>
</table>

After the partition the most important problem was the absence of a reliable link between Assam and the rest of India as the metre guage line between Gitaldah and Parbatipur went to Pakistan. The Indo-Pak rail line was a costly and uncertain route and there were cases of harassment to the parties concerned owing to damage of goods and abnormal delays. In order to have an all-India rail route the construction of the Assam Rail Link was started in 1948 and completed in December 1949 when the route was taken over by the Assam Railway.

97 G.O.I.: Indian Railways 1853-1953 (1953)

Note: The Assam Railway corresponded to the Pandu Region of the North Eastern Railway which in the past belonged to the J.S. Railway, the J.S. Railway, the D.S. Railway and other company railways, namely, the Katakhal-Lalaghat Railway - (constructed by the A.E. Railway, Managing Agent - Messrs Mcleod and Company), the Chaparmukh-Silghat and the Senchoa-Moirabari Railways (constructed by the A.E. Railway, Managing Agent - Messrs Martin Burn Company), on the south bank of the Brahmaputra. On the north bank, the lines were worked by the A.E. Railway, the Bengal Dooars Railway, the Darjeeling-Himalayan Railway, and the Cooch Behar State Railway which are not shown in the Table as these fall outside the geographical boundary of the State of Assam.
This project involved four sections, namely, Kishanganj to Siliguri (104 kilometres) where 2' gauge was replaced by a metre gauge line, Siliguri to Bagrakot (32 kilometres) which involved the construction of over a hundred bridges, Madarihat to Hasimara (12 kilometres) which involved a bridge over the untamed Toorsa, and Alipurduar to Fakiragram (72 kilometres), a total route kilometrage of about 230.

The Link was opened for goods traffic on the 9th December, 1949. On January 26, 1950 it was opened for passenger traffic. However, the capacity of the Link was limited and traffic to and from Calcutta involved transhipment at Maniharighat. As a result, for tea and other valuable exports river transport continued to be the main mode of transport between Assam and Calcutta. For quite a few years after the Link was established, railways could not play a significant role (especially in imports) in comparison to river transport although railways as a whole handled about the same volume of traffic as the latter: imports by rail declined by about 88 per cent and the exports also went down by about 17 per cent in 1953-54 as compared to 1939-40, while imports and exports by river transport showed an increase of 24.

Within this length there were 22 rivers which required deep well foundations for constructing bridges. Between Siliguri and Alipurduar the line cuts across the foothill of the Himalayas at an altitude of 600 feet and above. At the peak period of construction the personnel working on the Assam Rail Link project numbered 35 officers, 707 subordinates and 6,777 workers in addition to many tribesmen of Assam who rendered significant help.

The Assam Rail Link was a project of huge investment and as such criticism against lapses in the investment procedure was not rare. The Public Accounts Committee stated "tenders were in certain cases not called at all" (p.28) ... "out of the 371 contracts amounting to Rs. 2,09 crores, each costing more than Rs. 5,000, 300 approximately of the value of Rs. 1.7 crores were given out otherwise than on open tender : only 71 were given on open tender". (p.33) ... "reasons for not inviting open tenders for the local purchases, valued above Rs. 5,000 have not been furnished in numerous cases. Similarly, where the lowest suitable tender accepted was not actually the lowest quotation, the reasons for accepting the higher quotation have not been recorded, as required by the rules". (p.37) ... "audit has pointed out instances of uneconomical purchases". (Public Accounts Committee 1952-53 : Fifth Report, volume II, Calcutta June 1953)
per cent and 16 per cent in terms of selected commodities during 1940-54, as can be seen from the following Table.

Table 3.6: Imports and Exports of Selected Commodities to and from Assam by Railways and Riverways

<table>
<thead>
<tr>
<th>Exports/Imports</th>
<th>1939-40</th>
<th>1946-47</th>
<th>1953-54</th>
<th>By Rail</th>
<th>1949</th>
<th>1954</th>
<th>By River</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
<td>5</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Imports:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total of selected commodities</td>
<td>382.7</td>
<td>68.3</td>
<td>45.8</td>
<td>46.8</td>
<td>57.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-82%)</td>
<td>(-38%)</td>
<td>(-33%)</td>
<td>(+ 24%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total of selected commodities other than coal</td>
<td>48.3</td>
<td>32.7</td>
<td>35.5</td>
<td>33.9</td>
<td>52.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-32%)</td>
<td>(-26%)</td>
<td>(+ 9%)</td>
<td>(+ 55%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exports:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total of selected commodities</td>
<td>90.9</td>
<td>35.5</td>
<td>75.6</td>
<td>63.2</td>
<td>73.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-61%)</td>
<td>(-17%)</td>
<td>(+114%)</td>
<td>(+ 16%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total of selected commodities other than kerosene oil</td>
<td>75.3</td>
<td>28.3</td>
<td>72.3</td>
<td>63.2</td>
<td>73.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-63%)</td>
<td>(- 4%)</td>
<td>(+158%)</td>
<td>(+ 16%)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

( Note: 1. figures in brackets in columns show percentage variation over 1939-40 and 1946-47; those in brackets under column 6 indicate variation over 1949.
2. Imports include figures of cement, salt, sugar, iron and steel, piece goods, vegetable oils, coal and coke, grains, pulses, and wheat flour. Exports include figures of jute, kerosene oil, tea, timber, oil seeds and oil cakes, hides and skins.)

Such a situation may be explained in terms of the limited capacity of the new Link route. It was found that in 1954-55 the capacity of the Link route to Assam was about 25 per cent of Assam's pre-war rail traffic (of 14.4 lakh tons of imports in 1939-40). As the river rates were higher in many cases than the rail rates (especially after the partition), railway's failure to handle the traffic offering increased the cost of transport both to the importers as well as exporters.)

99 Compiled from the Transport and Commerce Department, G.O.
However it cannot be denied that after the opening of the Link the volume of goods movement to and from Assam has not altered. During 1951-52 exports from and imports to Assam by all-rail route were about 59.8 per cent and 37.0 per cent of the total export and import by all-rail route, steamer route and rail-cum-steamer services as against 50.4 per cent and 28.9 per cent during 1950-51. In fact dependence on all-rail route increased both in case of imports and exports.

The most noticeable impact was that the Bongaigaon-Gauhati section, which was till then just a local line serving the neighbouring areas, became the trunk line of Assam, being the only outlet for distribution of tea, jute and oil to external markets. With increasing traffic over the Link, the Assam Rail Link Control Committee with headquarters at Calcutta was set up to issue quotas for essential commodities in consultation with the Government and business circle. However, the transport capacity created by the Link could not fully compensate for the severance of the broad gauge link between Calcutta and Siliguri after the partition and it was decided to construct a broad gauge line from Siliguri to Khejuriaghat and from Tildanga to Farakka with a broad gauge wagon ferry between Khejuriaghat and Farakka, which in future years set the limit to rail transport capacity in Assam.

The effort to increase rail capacity could not bear desired fruit owing to natural calamities. The great Assam earthquake of August 15, 1950 caused severe damages to railways and the total cost of restoration was about Rs. 20 lakhs. But after the restoration the railways played an important role in moving large quantities of food and housing materials for relief purposes.

With the regrouping of the Railways in April 1952, the Assam

Railway was merged with the Oudh-Tirhut Railway to form the North Eastern Railway. This also necessitated the take over of the T.B. Railway by the N.E. Railway and the conversion of a portion of this railway into metre gauge. The Railway authorities indicated that "one of the objects of the new scheme of regrouping is to pull up the O.T. and the Assam Railway (which are losing lines) to national standards".

In spite of these measures taken to improve the railway communication to and from Assam, political factor stood on the way when in 1956 rail communication through the then Pakistan was restored for goods traffic only. Ultimately considerations of administration and economy led to a major organisational change in the railway system in Assam in 1958.

The Northeast Frontier Railway Zone, with Maligaon as headquarters, was set up on January 15, 1958 by bifurcating the N.E. Railway. It was composed almost entirely of metre gauge with a route kilometreage of 2,789 and was designed to

"provide the eastern-most part of India with a suitable administrative machinery competent to deal promptly and effectively with the immediate as well as long term railway problems of all kinds" and hence it was felt that "the most straightforward smoothly workable arrangement would be to locate a full-fledged and viable Railway Administration there with the same powers as are vested in the Zonal Railway Administrations".

101 Lok Sabha Secretariats Lok Sabha Debates, February 25, 1952

The Government also noted that "appreciation of the railway requirement of Assam area and contact with the local public and other interests has, to some extent, been neglected in the past, due to the remote administrative control from far-off Gorakhpur. During the last few years, considerations bearing on important points of strategy, internal administration, industrial development, particularly in connection with the exploration of oil resources of Assam etc. have focussed public attention on inadequate railway facilities in this region. It has, therefore, become imperative to provide, as far as possible, a dependable and all-weather railway line of communication between Assam and the rest of India ... it has been decided to establish at Pandu a full-fledged railway administration to study the problem on the spot and provide adequate railway facilities keeping in view long term requirements to suit the industrial development". (Lok Sabha Secretariat, Estimates Committee 1957-58, 18th Report, New Delhi, April 1958, p.18)
This new zone has some characteristics: first, this railway does not handle suburban traffic in Assam, secondly, about 61 per cent of the entire route kilometreage traversed through Assam while the states of West Bengal and Bihar have approximately 39 per cent. Moreover the Assam portion of the N.F.Railway runs entirely on a single line except about 22 kilometres of double line between Changsari and New Gauhati. The three traffic divisions that have jurisdiction over Assam are Alipurduar (from Srirampur to Agathori with all branches), Lumding (from Agathori to Furkating with all branches), Dibrugarh (from Furkating to Dibrugarh Town with all branches). Out of all these divisions Lumding has the highest route length (about 900 kilometres).

Mere setting up of zonal headquarters in the State was not enough. Owing to recurrent floods and disruption of the Link route some permanent solution had to be devised. The Assam Link Stabilisation Committee was set up and the work of strengthening the Link started in January 1957. The Link was stabilised in 1961-62 by providing some of the bridges with deeper foundation along with other measures such as better river training programmes, realignment and regrading at a cost of about Rs. 8 crores. The task was not easy as about 42 bridges had to be strengthened or rebuilt to provide increased waterways and deeper foundation. The Railway claimed that within a few months after stabilisation the capacity of the Link increased from 110 wagons to an average of 150 wagons per day in addition to about 10 specials carrying essential commodities every month. It was reported that during the Second Plan period there was an increase of about 93 per cent in the movement of traffic over this route.

But this was not enough as the ferry capacity (250 wagons a day each way) on the Brahmaputra set the limit to transport capacity for the major portion of Assam. Moreover, considerable shunting
operation was involved at Amingaon and Pandu and there was heavy
detention, particularly during monsoon when crossing over the Brahmaputra had to be suspended on account of high velocity of the stream. For all these reasons, including defence needs the construction of a rail-cum-road bridge was started in January 1959 and was completed at a cost of Rs. 10.79 crores, ahead of scheduled time. It was opened to goods traffic in October 1962 and to passenger traffic in January 1963. The importance of the bridge was felt much at the time of the Chinese aggression in 1962. The direct impact of the bridge has become too obvious as it has reduced the journey time of passengers by about 6 hours and at the same time the necessity of additional detention of over 24 hours for each wagon has disappeared. Further, it has led to economy in as much as it has become no longer necessary to maintain a marine fleet and two marshalling yards on both banks with the staff and track repair and maintenance facilities.

To a great extent the major railway projects in Assam since the

104 The bridge carries double line metre gauge tracks on the lower deck and 24 feet broad roadway on the upper deck, and for future conversion of the railway track to broad gauge the girders of the bridge have been designed suitably. To facilitate movement of river crafts a height of 40 feet has been provided from the normal high flood level to the bottom of the girder.

The demand for a bridge over the Brahmaputra may be traced to as early as 1910. After the Pope Committee's Report, the E.B.Railway reconsidered it and in 1933 a detailed estimate was prepared. In 1943 work was actually started under pressure of war transport needs but it was realised that the work would not be complete in time. In 1944 a special committee with Stephens and Bradshaw studied the problem of constructing a bridge at Jogighopa to avoid the hilly rivers on the railway alignment in the north bank of the Brahmaputra. But in 1948 it was decided that the bridge at Jogighopa should be deferred and one with less cost might be built at Amingaon. Finally, from the point of economy and engineering advantages the site at Pandu was favoured for a 4,247 feet bridge over the Brahmaputra. The task of bridging the banks was not easy as the Brahmaputra carries at times a discharge of 2.5 million cusecs at a velocity as high as 18 feet per second and even in the coldest months the velocity is never below 5 feet per second.
independence are the result of forces external to railways. The defence needs and the uncertainty of the river route via Pakistan compelled the authorities to extend the broad gauge line from New Jalpaiguri to Jogighopa via New Bongaigaon. The section from Srirampur (Assam) to Jogighopa, involving an outlay of about Rs. 13.7 crores had been opened to goods traffic since June 1965 and to passenger traffic since January 1966. A transhipment point at New Bongaigaon was established with an initial capacity of daily average of 25 wagons. As a result of this line and the Farakka Barrage there is now an unbroken broad gauge link from Jogighopa to Calcutta with a capacity no longer limited by wagon ferry capacity at Farakka.

After the construction of broad gauge line, capacity up to Bongaigaon increased, but capacity east of Bongaigaon remained limited. Towards the end of 1963 the Centralised Traffic Control System was installed between Bongaigaon and Changsari (132 kilometres) at a cost of Rs. 3.35 crores to overcome this problem. It was calculated that as a result of the Centralised Traffic Control the sectional capacity would increase from 18 trains to 24 trains each way per day. Moreover, arrangements were made to carry traffic to the order of about 300 tonnes a day from New Bongaigaon to New Gauhati by fleets of the C.R.T. It was also planned that about 100 tonnes of traffic per day would be carried by the R.S.N. Company from Jogighopa to the Upper Assam. Future events indicate that had these two organisations worked successfully, there would have been no much urgency for immediate extension of broad gauge up to Guwahati or the Upper Assam.

105 The barrage, 2.6 kilometres in length, is constructed at a cost of Rs. 7 crores and opened in November 1971 after two and half years of work.

106 The Railway calculated that with the Centralised Traffic Control System the capacity of single line section could be increased by about 30 per cent at a cost of about Rs. 2 lakhs per mile whereas a new line in these areas would cost much more.
be summarised as follows.

Table 3.7: New Railway Extensions in Assam area since 1947

<table>
<thead>
<tr>
<th>Year</th>
<th>Section</th>
<th>Total Kilometres</th>
<th>Date opened to traffic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1962-63</td>
<td>Rangapara North - North Lakhimpur (M.G.)</td>
<td>173</td>
<td>June 1962, January 1963</td>
</tr>
<tr>
<td></td>
<td>Brahmaputra Bridge and Approach</td>
<td>16</td>
<td>October 1962</td>
</tr>
<tr>
<td>1964-65</td>
<td>North Lakhimpur - Gogamukh (M.G.)</td>
<td>185.75</td>
<td>April 1964, July 1965</td>
</tr>
<tr>
<td></td>
<td>Kalkalighat - Dharmanagar (M.G.)</td>
<td>19 (+12 kms. in Tripura)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Jogighopa - Srirampur (B.G.)</td>
<td>110</td>
<td>June 1965, January 1966</td>
</tr>
</tbody>
</table>

The total route kilometreage of the N.F.Railway has increased by about 843 (3,632 - 2,789) during 1958-70 whereas out of this only about 472 kilometres have been opened to traffic during the same period in Assam area. The year 1965 and 1966 experienced the maximum opening of new lines in Assam in the post-independence era. Of all these extensions since the independence, the most important is the Rangapara North - North Lakhimpur (M.G.).

Compiled from the Annual Reports of the N.F.Railway

(Within the then N.E.F.A. area there is a stretch of about 200 kilometres in the Subansiri district. A small part of the Kalkalighat - Dharmanagar section, from Churaibari to Dharmanagar, lies in Tripura.)
Lakhimpur - Murkong Selek line which opened up a vast inaccessible and undeveloped area in the north bank of the Brahmaputra. The importance of this line lies also in that it made the distance to the Upper Assam from Calcutta shorter than the south bank route. Another important line to Dharmanagar (as shown in Table 3.7), connected Tripura with Assam by rail for the first time. It may be noted here that compared to new railway extensions development of roads in the plains districts of Assam has been substantial as during the period 1961-70 the addition of new black topped roads alone in the plains districts was about 1,742 kilometres and the addition of all kinds of road was about 5,000 kilometres.

Today the railway system in Assam begins from Srirampur and ends at Lekhapani (near Ledo) in the south bank and Murkong Selek in the north bank of the Brahmaputra. By 1972 the Assam portion of the N.F. Railway traverses through 10 civil districts, including two hill districts, which are rich in agricultural and mineral products. The Lumding-Mariani section passes through the border of the state of Nagaland near Manipur Road.

The distribution of railway route kilometreage in different civil districts of Assam in 1966-67 may be seen from the Table 3.8:

Table 3.8: Distribution of Railway Route Kilometreage in Assam District-wise

<table>
<thead>
<tr>
<th>United Mikir &amp; Lakhimpur</th>
<th>Goalpara</th>
<th>Kamrup</th>
<th>Sibsagar</th>
<th>Darrang</th>
<th>Cachar</th>
<th>Nowgong</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area in square kilometres:</td>
<td>15,225</td>
<td>12,759</td>
<td>10,380</td>
<td>9,853</td>
<td>8,944</td>
<td>8,725</td>
</tr>
<tr>
<td>Route kilometreage:</td>
<td>409</td>
<td>481</td>
<td>262</td>
<td>216</td>
<td>373</td>
<td>186</td>
</tr>
</tbody>
</table>

109 It is interesting to note here that Delhi to Ledo is almost the same distance as between London and Leningrad.
110 Compiled from Regional Transport Survey, volume III, Op.Cit., p.22. As the actual route kilometreage in Assam area in 1967-68 was about 2,200 (G.O.A.: Economic Survey: Assam 1970: p.44) the district-wise break-up of kilometreage mentioned in this Table might have taken into account of sidings as well.
Thus it appears that railway facilities differ from district to district. From the point of railway route length Lakhimpur district (before its recent division) was best served and the Darrang district least served by the railways. It is significant to note that even in 1970-71 when the N.F.Railway had a total of 420 metre gauge and 87 broad gauge stations, there was no city booking office, no city booking agency and no street collection and delivery services in any of the districts of Assam.

If we make a comparative study of the railway kilometrage in Assam with other States in India (Table 3.9), we find that Assam does not stand favourably in comparison to many States like Punjab, West Bengal, Haryana, Bihar, Uttar Pradesh, Gujarat and Tamil Nadu. By 1967-68 Assam had only 3.8 per cent of the total route length and 3.2 per cent of the total track kilometrage of the whole country.

Table 3.9: Railway Length in States in India (March 1967)

<table>
<thead>
<tr>
<th>State</th>
<th>Broad gauge</th>
<th>Metre gauge</th>
<th>Narrow gauge</th>
<th>Total</th>
<th>Route length per 1000 square kilometres of area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Punjab</td>
<td>1909.3</td>
<td>194.8</td>
<td>11.9</td>
<td>2115.9</td>
<td>42</td>
</tr>
<tr>
<td>West Bengal</td>
<td>2340.3</td>
<td>525.3</td>
<td>202.9</td>
<td>3068.5</td>
<td>35</td>
</tr>
<tr>
<td>Haryana</td>
<td>786.9</td>
<td>1066.7</td>
<td>3.4</td>
<td>1167.1</td>
<td>32</td>
</tr>
<tr>
<td>Madhya Pradesh</td>
<td>3189.7</td>
<td>1142.5</td>
<td>69.2</td>
<td>4241.4</td>
<td>30</td>
</tr>
<tr>
<td>Uttar Pradesh</td>
<td>5358.4</td>
<td>3283.1</td>
<td>2.0</td>
<td>8643.4</td>
<td>29</td>
</tr>
<tr>
<td>Gujarat</td>
<td>895.9</td>
<td>3400.7</td>
<td>1134.8</td>
<td>5664.4</td>
<td>29</td>
</tr>
<tr>
<td>Tamil Nadu</td>
<td>863.5</td>
<td>2722.1</td>
<td>-</td>
<td>3585.6</td>
<td>28</td>
</tr>
<tr>
<td>Kerala</td>
<td>553.4</td>
<td>336.5</td>
<td>-</td>
<td>889.9</td>
<td>23</td>
</tr>
<tr>
<td>Andhra Pradesh</td>
<td>2857.1</td>
<td>1716.4</td>
<td>36.9</td>
<td>4612.4</td>
<td>17</td>
</tr>
<tr>
<td>Maharashtra</td>
<td>2782.5</td>
<td>1307.5</td>
<td>1102.9</td>
<td>5193.0</td>
<td>17</td>
</tr>
<tr>
<td>Rajasthan</td>
<td>648.7</td>
<td>4720.3</td>
<td>87.2</td>
<td>5455.2</td>
<td>16</td>
</tr>
<tr>
<td>Mysore</td>
<td>546.1</td>
<td>2042.7</td>
<td>156.8</td>
<td>2745.5</td>
<td>14</td>
</tr>
<tr>
<td>Madhya Pradesh</td>
<td>3648.6</td>
<td>497.5</td>
<td>1137.7</td>
<td>5283.8</td>
<td>12</td>
</tr>
<tr>
<td>ASSAM</td>
<td>105.2</td>
<td>2088.6</td>
<td>-</td>
<td>2193.8</td>
<td>11</td>
</tr>
<tr>
<td>Orissa</td>
<td>1543.8</td>
<td>-</td>
<td>143.0</td>
<td>1686.8</td>
<td>11</td>
</tr>
<tr>
<td>Nagaland</td>
<td>-</td>
<td>9.4</td>
<td>-</td>
<td>9.4</td>
<td>1</td>
</tr>
<tr>
<td>Jammu &amp; Kashmir</td>
<td>6.2</td>
<td>-</td>
<td>-</td>
<td>6.2</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>28035.5</strong></td>
<td><strong>25391.2</strong></td>
<td><strong>4088.7</strong></td>
<td><strong>57515.4</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

112 Commerce: Annual Number: 1969
Calculating gauge-wise (up to 1967-68), Assam covers about 8.2 per cent of metre gauge and 0.35 per cent of broad gauge route length (only 110 kilometres) of the whole country. The route lengths of Assam and India per 1,000 square kilometres of area are as follows:

<table>
<thead>
<tr>
<th>Gauge</th>
<th>Assam</th>
<th>India</th>
</tr>
</thead>
<tbody>
<tr>
<td>All route</td>
<td>18.0</td>
<td>18.6</td>
</tr>
<tr>
<td>Metre</td>
<td>17.4</td>
<td>8.8</td>
</tr>
<tr>
<td>Broad</td>
<td>0.8</td>
<td>7.9</td>
</tr>
</tbody>
</table>

This shows that the broad gauge route length is much below the all-India level. However, apart from the length of railway route kilometrage the distribution of length is equally important. As in case of Orissa, where rail (and road) network is mainly concentrated in the coastal districts, in Assam also railways have covered only certain areas, mainly tea districts, keeping the interior parts of some districts relatively isolated.

The Regional Transport Survey found that out of 296 stations in Assam (in 1965-66) 36 stations were important from the commercial point and each of the three railway divisions had almost the same number of important stations. Of the 72 important booking points in Assam 27 were in Alipurduar, 16 in Lumding and 29 in Dibrugarh division. In addition to these, there were not less than 40 railway sidings in Assam. As many as 35 sidings were tea garden sidings which indicate the probable impact of rail transport on the tea industry of Assam. The Noonmati siding has been catering to the need of the oil industry and

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113 G.O.A.: Economic Survey: Assam 1970, p.44 (Note: * Considering 122,000 square kilometres as the area of Assam in 1967-68 the figure should be 18 instead of 11. ** In 1970 the total length for India as a whole increased to about 59,670 kilometres which gives us an all-India average of 18.6 kilometres)
since 1964 the New Gauhati military siding has been serving the
defence needs. The Railway has shown interest in opening new sidings
to help private as well as public undertakings such as the Burma Oil
Company, the Asbestos-Cement Company, the Oil and Natural Gas
Commission, the Assam Hard Board, the Assam State Electricity Board
(Namrup) and the Match Factory (Dhubri).

The development of railways in Assam after independence has
one important aspect, namely, modernisation which is characterised by
introduction of improved signalling, tele-communication and remodelling
of some strategic yards. New crossing stations, lengthening of loops
etc. were other developmental works. It was stated that:

"at a total expenditure of Rs. 1 crore and 53 lakhs interlocking,
ensuring safety and higher speed in train running, was carried
out at 62 stations which, incidentally, figured to be the
maximum in a single year on any of the Indian Railways during
the Third Five Year Plan period". 114

Moreover, during the Third Plan, dieselisation of all through
goods train in Assam began which enabled the Railway to increase its
through-put by about 75 per cent at the time of the Chinese aggression
in October 1962. But in spite of Assam's immense electric power
potential the Railway in Assam has not at all progressed towards
electrification as in Maharastra, Gujarat and Tamil Nadu. Selective
electrification will surely help raising operational efficiency in this
single line metre gauge railway system of the State.

To sum up, in the early period of development, the railways
in Assam were nothing more than feeders to the river transport, which
played a more important part in export and import trade of Assam. After
1904, however, with connection to the Chittagong port, the impact of
railways began to be more perceptible. Yet various factors combined
together to make river transport the primary mode of transport. The

railways that sprang up in the early days in distant parts of Assam continued to grow and facilitated the development of the area traversed by them. Of all the four main railway systems, the D.S.Railway handled the maximum volume of goods traffic but in later years the A.E.Railway continued to handle more traffic, both goods as well as passenger, and earned the maximum revenue. In the history of the development of railways in Assam it is interesting to note that as compared to tea, industry, river steamer services and the road transport, railways formed the most important sector, being invested with the largest amount of capital even in the middle of the 1940's. It is equally significant to observe that the direct profits on the lines were a less important factor than profits from other sectors and the general economic development of the area traversed by the railways.

With the dawn of independence, the impact of rail transport was largely modified by the political changes, apart from its internal limitations. In spite of relatively larger expenditure on the Railway as compared to other modes of transport, its capacity was limited and river transport continued to be the main mode of transport, when both imports as well as exports between Assam and Calcutta were considered. However, the initial role of railways reversed and after 1947 railways started to play relatively a more important part in respect of exports as compared to imports: the Railway continued to handle more export traffic but less import traffic in comparison to the river services. The real development started after 1962 with the completion of the bridge over the Brahmaputra and extension of railway line to farther north-east connecting vast isolated areas. In a way railway development in Assam since the independence may be divided into three distinct phases: first, from 1947 till the construction of the Link route,
second, from the coming into being of the Link to the construction of the Brahmaputra bridge and the third phase from the opening of this bridge till the present day. From the point of new railway extension 1965 and 1966 were the most notable years during which about 220 kilometres were opened to traffic.

However, the extent of railway facilities differ from district to district and a comparison of Assam with all-India picture indicates that the State is at a very low scale in regard to extension of broad gauge system. Although modernisation schemes have been introduced, little has been done for introduction of electric traction and much remains to be done in various other respects.