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REPORT ON BROAD GAUGE RAILWAY LINE THROUGH THE DIPAR BEEL

I. INTRODUCTION

Public
oucry

1.1 When the construction of the BG Railway line through the Dipar Beel started during the current year (1989) a chorus of protests emanated from different quarters culminating in stopping of further construction some time ago.

The
alternatives

1.2 The Railways realised the environmental degradation which might be caused by a BG line right through the Dipar Beel and suggested two alternatives. The first alternative is around the fringe of the Beel skirting it by the western, southern and eastern sides and joining the Azara Yard with the Goods Marshalling Yard at Bargaon on the National Highway 37 by a circuitous route (Northern Alternative). The second alternative (Southern Alternative) is through the northern fringe of the Rani Reserve Forest skirting the Dipar Beel on the southern side and joining the Azara Yard with the Bargaon Marshalling Yard by a more direct line with an extension parallel to the NH 37 linking up the Bargaon Marshalling Yard with the Kamakhya Railway Station by the side of the existing BG line (see map attached at Annexure 'A').

Forest Dept's
objections

1.3 Since the Forest Department objected to the southern alternative on the ground that it would disturb the ecology of the Rani Reserve Forest,

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this alternative was abandoned by the Railways and they started construction of the northern alternative.

1.4 This led to the present spate of protests by conservationists and environmentalists who are vehemently opposed to the northern alternative.

The Institute of Scientific and Technological Research (INSTER) and the Final Semester Students of the Assam Engineering College are leading the protest against the northern alternative. Their views appear to be strengthened by the Assam Pollution Control Board's Report entitled "A Preliminary Environmental Impact Assessment on Dipar Beel Basin Area". While these organisations opposed the construction of the northern alternative they appear to be agreeable to the construction of the southern alternative as a lesser evil. On the other hand, the Forest Department vehemently oppose the southern alternative.

1.5 The representations submitted by these organisations along with the papers furnished by the N F Railways and the State Forest Department are in the relevant file of the Science and Technology Department. The list is at Annexure 'B'.

1.6 I was benefited by discussion with a large number of experts and officers including Shri D. K. Gangopadhyay, Commissioner, Revenue, Shri U. N.

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Reports
and papers

Filed with
ST&E Dept.

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Opinions of experts, etc. Bhuyan, Deputy Commissioner, Kamrup, Shri D. P. Neog, Chief Conservator of Forests (General), Shri S. Deb Roy, Chief Conservator of Forests (Wildlife), Shri A. K. Dev Barman, Chief Engineer (Construction), N F Railways, Shri M. K. Sarma, SR, Research Officer, Assam Pollution Control Board, Shri P. C. Kalita, Executive Engineer, E&D, Guwahati East Division, in charge of the Guwahati Drainage Scheme, Prof. A. N. Bezbarua, General Secretary, INSTER, Prof. S. Sarma, Gauhati University, Prof. T. K. Bora, Assam Engineering College, Student Leaders of the Assam Engineering College and others.

Discussions

1.7 Most of the persons named above travelled with me all along the Dipar Beel and joined in the discussions at Sakardai on 4.10.89 and in my chamber on different dates.

Consensus not available

1.8 This has become a very sensitive issue and large sections of the scientists, the conservationists and even the general public have become exercised over the final outcome of the enquiry that I have been entrusted to conduct. It was really difficult to evolve a consensus. Again, it would have been time consuming to obtain notes of dissent. I have, therefore, carefully gone through the papers made available to me and examined the views expressed by different organisations and individuals. But I have decided to draw my own conclusions independently of the stands taken by any of the persons and organisations. The

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responsibility for the recommendations made in this report are, therefore, mine alone.

II. ISSUES AND PROBLEMS

Need for the BG line

2.1.1 There seems to be no doubt about the need for the BG line. It is after long years of demand and agitation by the people of Assam that the Railways have conceded this line from Pancharatna to Guwahati linking the bridge over the Brahmaputra. It cannot be abandoned now.

Stopping at Azara

2.1.2 There is a possibility of stopping the BG line at Azara. This will have the advantage of leaving the Dipar Beel and the Rani Reserve Forest alone. But then there will be no link up with the BG line across the Saraighat bridge and there will be no circular Railway. Moreover, the present NH, which also serves the airport, will get soaked up with about 700 additional trucks moving up and down from Azara every day. The advantage of a BG line through the south bank of the Brahmaputra linking up the Pancharatna - Jogighopa bridge will be practically lost by the traffic and the pollution.

Azara to Pandu

2.1.3 In order to avoid the Dipar Beel substantially one suggestion was to take the BG line along the Brahmaputra upto Pandu and use the now under utilised Pandu Station Yard. This, however, cannot be supported because very large number of local inhabitants of the settled and congested villages on the south bank of the

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Brahmaputra will have to be uprooted. The area is prone to severe erosion and reported to be geologically unstable. The Railways would not be able to construct and sustain such a BG line. Besides, this would mean crossing the N H and disturbing the Gauhati University campus to a greater extent.

2.2.1 The proposed Bargaon Marshalling Yard will discharge polluted material to the Dipar Beel which might destroy the fauna and the flora. The Deputy Chief Engineer of the N F Railways, who was present during the local inspection, assured that before discharge into the water all such materials would be properly treated. He also assured to consider a suggestion for discharging such materials, after treatment, directly into the Brahmaputra by a pipe line similar to the one used by the Guwahati Refinery.

2.2.2 I was told that the site of the Marshalling Yard cannot be shifted to the south, away from the vicinity of the Dipar Beel, because suitable area does not appear to be available. Moreover, any shifting to the south would mean that the Yard would then be too far away from the existing BG line with which it has to be linked up so that trains running through the Saraighat Bridge may also discharge their cargo at the Bargaon Marshalling Yard.

2.2.3 One of the objectives of having a larger

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Pollution
by Bargaon
Marshalling
Yard

Shifting of
Bargaon
Marshalling
Yard

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Reduction of Trucks

Marshalling Yard at Bargaon is to reduce the pressure on the BG Marshalling Yard at New Guwahati. At present New Guwahati is handling about 7000 MT of goods out of which about 5250 MT, constituting 75 per cent, will be shifted to Bargaon when the new BG line is complete thus reducing the pressure of truck movement from the city by 525 trucks per day, from 700 trucks per day to 175 trucks per day. It is, therefore, essential that the Bargaon Yard is constructed as early as possible although the possibility of a slight shift to the south, beyond the Mora Bharalu river, should be considered.

Azara Yard

2.3.1 As far as the Azara Yard is concerned, it has to be at the western end of the line and shifting it any further would mean disturbing settled villages near the airport. Moreover, there is a brick-kiln and a huge tower of the high tension 220 KV transmission line near the site selected for the Azara Yard. If the Yard discharges any polluting material it would be necessary for the Railways to treat the same and discharge it by a pipeline running directly to the Brahmaputra.

Airport Vs. Bird Sanctuary

2.4.1 There is grave doubt whether use of the Dipar Beel as a bird sanctuary will be allowed, in the long run. This is because the Borjhar Airport Complex is only 4 to 5 kms. away, as the crow flies, from the Dipar Beel. As the traffic increases the airport will have to expand and

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aeroplanes will need vastly greater airspace to circle around before landing. Birds have caused considerable damages to aircrafts in India in the past. It is doubtful whether a bird sanctuary would be allowed so near the Airport.

2.4.2 However, as a vast swampy area and a huge open space Dipar Beel will have many other uses. It has been a fishery for a long time and the entire Beel can be developed as a source of fish for the city. In any case, in Guwahati which cannot boast of much open spaces, the Dipar Beel should always be retained as a "lungs" for the city.

Fishery

2.5.1 This, however, depends on the Government's ability to stop encroachment in and around the Dipar Beel. Already some people with money to spare have started constructing farm houses on land parcelled out by unscrupulous Mandals, Kanangoes and Circle Officers all around the Beel. Some industries also have come up. I was told that lands with valuable trees have been settled with traders in the Rani Reserve Forest. On both sides of the PWD Road through the Rani Reserve Forest encroachments could be noticed along with old settlement with the tribal people. Even now periodic pattas are being issued to encroachers, both rich and poor, and more and more land is being filled up to construct houses along the fringe of the Dipar Beel. The BSF Housing Complex

Encroachments and Settlements

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has come up right in the swampy area of the Beel. This area has not been raised and it is very likely that the BSF's residential area will get flooded when the water level rises next time.

2.5.2 It is essential to remove the encroachment both in the Dipar Beel and in the Rani Reserve Forest. This will be a stupendous task in a city where encroachment has become almost the order of the day. To illustrate the point it may be mentioned that it is only in Guwahati that the Director of Town and Country Planning (now retired) dares to take up private construction on road side reserve land in a busy thoroughfare to rent out for commercial purposes, the Director General of Police (now retired) dares to fill up an important public drain for his own private use as a kitchen garden thus obstructing free flow of storm water in the congested Silpukhuri area and the Railways can prevent the State Government agencies from evicting encroachers from their land. This has to be changed and bold steps should be taken to evict the encroachers. Deterrent and exemplary punishment to a few Revenue Officials might mitigate the problem.

2.6.1 I was told that the gradient in the Greater Guwahati area is such that the sewage has to be passed through the Dipar Beel area and only then along the Khanamukh river to the north and the Kalmoni river to the west before discharge into the Brahmaputra. There is no other way of

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Encroachment
by important
functionaries


Disposal of
of raw
sewage

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disposing of the sewage. The present scheme is to discharge the raw sewage directly into the Dipar Beel through the Mora Bharali river at the extreme south east of the Beel. This will mean that the sewage will get mixed up with the water body and contaminate the entire Beel. When the excess water passes out through the Khanamukh and the Kalmani rivers it would leave behind the solid waste in the Dipar Beel to further pollute the water body. This is unacceptable. I have asked the Executive Engineer (E&D) who is in charge of the Scheme to plan for a Treatment Plant at the mouth of the Beel and then pass on the treated sewage through a pipe-line which will not disturb the ecology of the Dipar Beel. There does not appear to be any other way of dealing with the matter.

2.7.1 The Truck Terminal proposed to be set up by the Guwahati Municipal Corporation at Gotanagar near the Sanskrit College will pollute the Dipar Beel. Since the Marshalling Yard is being proposed in Bargaon a separate Truck Terminal does not appear to be necessary at Gotanagar. What can be done is to acquire an equivalent area of land near Bargaon and shift the Truck Terminal there. The land at Gotanagar may be handed over to the Sanskrit College or to the Ayurvedic College for a play ground. The State Government should allocate sufficient funds for fencing in the entire area of

Truck
Terminal


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this play ground so that there is no encroachment by any one.

Traffic congestion

2.8.1 Guwahati suffers from chronic traffic jams and road-side accidents are on the increase. The number of vehicles on the roads of the city have increased several fold during the past few decades while the road length has not increased in the same proportion. The condition of some of the roads has even deteriorated during this period. It is necessary to plan for a road system which can handle the traffic of this city. However, the first priority should be to increase the number of outlets from the city immediately so that the truck movement from the Railway Stations and the Marshalling Yards is smooth and traffic from and to the airport becomes better organised.

NH Diversion

2.8.2 In the Master Plan for Greater Guwahati published in 1986 an N H Diversion has been shown through the Rani Reserve Forest. This has been done because there is absolutely no other way or corridor through which the N H can be diverted. In any case such a diversion will not add much to the pollution because already a PWD road exists on the southern fringe of the Rani Reserve Forest. A High Voltage 220 KV Transmission Line with huge towers of the Assam State Electricity Board passes by the PWD Road.

High Tension line

2.8.3 At present the N H passes right through the Gauhati University. This disturbs the academic atmosphere and causes a great deal of confusion in

Gauhati University

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the University Campus. It is necessary to take the N H away from the University area. . But this is possible only through the Rani Reserve Forest as is apparrant to any one with personal knowledge of the area. This will be clear also from a close study of the contour map of the area.

2.8.4 It is probably not generally realised that all traffic to and from the North Eastern Region beyond Guwahati, except perhaps a small portion which takes the northern route to the Kalia Bhomora bridge, has to pass through the traffic junction at the foot of the Saraighat bridge in the south bank. This is true for both Rail and Road traffic. Any disruption at this junction might paralyse all movements to and from the North Eastern Region. This has dangerous portends for law and order situations. Moreover, national security might be jeopardised in the event of an emergency if by chance this junction is put out of commission. If that happens troop movement would be completely halted. Such an eventuality has to be avoided at any cost. Therefore, it is essential that an N H Diversion is built urgently. Unfortunately, there is no other alternative but to construct the Diversion through the Rani Reserve Forests.

Law and Order

National Security

III. THE NORTHERN ALTERNATIVE

3.1 The northern alternative has the advantage of avoiding the Rani Reserve Forest. If it is preferred there will be no disturbance on account

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Less disturbance to animals

of the BG line to the elephants and other animals which have enjoyed the Rani Reserve Forest as their habitat since a long time except for the disturbance the animals are already suffering from the settled villages, encroachers, the PWD Road and the High Tension 220 KV Transmission Line.

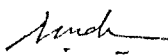
More disturbance to institutions and villages

3.2 However, it will skirt the Dipar Beel on three sides - western, northern and eastern, in that order. This will create disturbance and pollution for the Gauhati University Campus, the Assam Engineering College Campus, the Assam Sanskrit College Campus and the Assam Ayurvedic College Campus beside the settled villages in the Azara, Chariali, Dharapur, Khanamukh, Jalukbari, Gotanagar, etc. areas.

Growth of Slums

3.3 If the BG line is pushed further towards the Beel in the hope of reducing the disturbance to the institutions mentioned above the ecology of the Dipar Beel will be more adversely affected. It will then leave much less area in the Dipar Beel. Moreover, the area falling on the other side of the BG line, that is, outside the Dipar Beel, will become shallow and fall prey to the encroachers who will certainly convert the entire area into a huge slum probably worse even than Dharavi.

3.4. If the BG line is pushed further away from the Dipar Beel in the hope of saving as much of the Beel as it is possible then the hazards of


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A more northern alignment

pollution to the institutins mentioned at para 3.2 will increase. At the same time the dangers of encroachment and slum construction will remain almost the same.

Need for NH Diversion

3.5 The northern alternative will not in any case avoid the necessity of construction of an N H Diversion which, as has been already explained, has to be through the Rani Reserve Forest. It cannot be by the side of the BG line (northern alternative) because it will be too near the existing N H and will not fulfill the objectives of a Diversion. Moreover, it will then take away much more area out of the Dipar Beel and reduce the extent of the water body. It will increase pollution in the congested areas of the villages and the institutions mentioned at para 3.2.

Stoppage of Storm water drainage

3.6 What is of paramount importance is the fact that the northern alternative will effectively stop the storm water drainage to the 'Dipar Beel' from the entire western part of Greater Guwahati from Pandu to Jalukbari and Gotanagar and from Khanamukh to Azara. The situation in this part of Guwahati will become even worse than in the eastern part which gets terribly affected by water-logging after every hailstorm and rain. It may be recalled that the BG embankment from Kamakhya to New Guwahati is primarily responsible for the water-logging of Guwahati city.

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IV. THE SOUTHERN ALTERNATIVE

Pollution and animal movement

4.1 The southern alternative will have the disadvantage that it will pass through the Rani Reserve Forest. It will, to some extent, affect movement of elephants and other animals. It will also pollute the area in the northern fringe of the Rani Reserve Forest.

Alignment causing least disturbance to animals

4.2 However, it has to be remembered that there is already a PWD Road through the Rani Reserve Forest. The route of the N H Diversion will probably have to be along this Road. There is a High Tension 220 KV Transmission line along the bank of the Dipar Beel. Large areas have been settled with old residents and quite a substantial area has been either encroached or illegally settled with traders and middle class people who are neither fishermen nor farmers by any stretch of imagination. The BG line can be built evicting the encroachers. It can be aligned as much to the southern fringe of the hill ranges as it is possible. The formation of the hills are such that passages for storm water can always be provided below the BG embankment between parallel ranges of hills. For the elephants and other animals water tanks can be dug in the valleys and dales between the hills in the vast expanse of the Rani Reserve Forest

V. CONCLUSIONS AND RECOMMENDATIONS

5.1.1 Basic to the entire controversy is the fact

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BG line absolute must.

that the BG line from Pancharatna to Guwahati is absolutely essential for the future development of the State and the North Eastern Region. Under no circumstances can it be stopped or even unnecessarily delayed. Any delay will benefit the truck lobby and continue the pollution throughout the State beside frequent damages to the State's road system.

Alternatives

5.1.2 Given the above basic fact the task is to determine the alignment of this BG line, more precisely in the short leg skirting the Dipar Beel by either of the two alternatives described in the foregoing chapters.

Southern alternative preferable.

5.2.1 On a very close examination of all the pros and cons, as described in detail in the foregoing chapters, it is my considered opinion that the southern alternative has to be chosen, at least as a lesser evil. The overriding interest of national security would also dictate that this alternative is preferred.

No further damage to animal habitat.

5.3.1 This means that between Azara and Bargaon the BG line will have to pass through the Rani Reserve Forest by its northern fringe. The habitat of the elephants and other animals will not be further affected by this alignment because most of the aforesaid area is already populated by settled villagers, encroachers and rich/middle class people who have obtained pattas probably by illegal/irregular means. There are also a PWD Road and a High Tension 220 KV Transmission line

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Animals

with its huge towers passing through this area. In any case the animals avoid the area and live in the interior of the Rani Reserve Forest.

Outlets for storm water

5.3.2 However, the Railways will have to provide enough outlets in between the hill ranges for storm water to pass through to the Dipar Beel from the interior of the Rani Reserve Forest. While planning for such outlets the senior officers of the State Forest Department should be consulted.

Water tanks for animals

5.3.3 The Forest Department will have to dig a number of water tanks in the interior of the Rani Reserve Forest for the elephants and other animals so that these animals do not need to travel to the Dipar Beel for drinking water.

Encroachers to be prevented and evicted.

5.3.4 On both sides of the BG line and also on both sides of the NH Diversion, to be built through the Rani Reserve Forest, barbed wire fencing should be erected to prevent encroachers, poachers, etc. from entering the Forests. The existing encroachments should be cleared immediately.

Non-stop trains & trucks.

5.3.5 Except for the BG line and the NH Diversion there should be no other installations allowed within the Rani Reserve Forest. This means that the trains will have to pass through this area from Azara to Bargaon non-stop. Similar will be the position of trucks on the NH Diversion. No Dhabhas, etc. can be provided within this area.

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Prevention
of noise
pollution

5.3.6 It is true that there will be some noise pollution in the area. This cannot be entirely avoided. However, in physically determining the alignment of the BG line it should be seen that to the extent possible it passes through a corridor on the northern side of the high hills so that these hills may act as barriers to encroachment and particularly to noise pollution at least in the interior of the Rani Reserve Forest.

The Azara
Yard

5.3.7 The Station Yard at Azara and the Goods Marshalling Yard at Bargaon are absolutely essential. Neither can be dispensed with. Azara Yard cannot be shifted further to the west due to reasons described in para 2.3.1. A Treatment Plant for polluting materials may have to be installed with a discharge pipeline to the Brahmaputra.

Attempt to
shift
Bargaon
marshalling
Yard

5.3.8 As far as the Goods Marshalling Yard at Bargaon is concerned, an attempt should be made by the Railways in collaboration with the Deputy Commissioner, Kamrup, to shift it as far as it is possible to the south and probably beyond the Mora Bharalu river. A Treatment Plant along with a discharge pipeline to the Brahmaputra will be necessary. The land given for the Bargaon Yard should be sufficient to accommodate all concerned including FCI, STAFED, ASWC, etc. The Truck Terminal should be shifted from Gotanagar to Bargaon either inside the Yard or contiguous to

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it.

5.3.9 The alignment of the linking BG line beyond the Bargaon Marshalling Yard should be changed as follows: At the nearest point of the Bargaon Marshalling Yard the BG line should cross N H 37 to the eastern side and then continue along the N H 37 to the north and meet the existing BG line at a point west of Kamakhya but avoiding, as far as practicable, the water body of the Borhola Beel. This will reduce disturbance to the institutions mentioned at paragraph 3.2 and also minimise the problem of storm water discharge to the Dipar Beel.

Alignment of the linking BG line.

5.4.1 We have to think ahead and evolve permanent solutions for this area instead of running after ad hoc and soft options. That is why I have suggested that the N H Diversion has to be planned for from now itself along with the BG line.

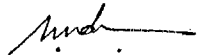
No soft options.

5.4.2 The present NH 37 will feed this diversion. Beside that the Road from the junction of the proposed diversion and the present NH 37 to Fatasil-Ambari and then on to the Assam Trunk Road should be broadened and improved so that city traffic to the airport may pass through this route instead of thorough the Gauhati University Campus.

Road to Fatasil-Ambari

5.4.3 The Road from Ganeshguri via Kahilipara which joins the present Ambari-Fatasil Road should also be broadened and improved to act as a feeder road for the airport traffic from the southern and

Road to Ganeshguri and Kahilipara


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eastern parts of the city.

Road to
Bharalumukh

5.4.4 Similarly the Road from Bharalumukh to Ambari-Fatasil should be broadened and improved to act as a feeder for airport traffic from the western part of the city.

Road to
Ulubari-
Charali

5.4.5 Another road which will have to be broadened and improved for the same purpose is the Road between Ulubari Charali and Ambari-Fatasil.

High Power
Board.

5.5.1 The need for retaining the Dipar Beel as a "lungs" for the city has been mentioned at para 2.4.2. The State Government may consider appointing a High Power Board on a permanent basis, for conservation and improvement of the entire Dipar Beel area. The Chairman may be a senior officer functioning on a part-time basis assisted by part-time Members who are technically qualified in the relevant disciplines and a small full-time supporting office.

Detailed
Environmental
Study

5.5.2 A detailed environmental study of the Dipar Beel should be commissioned by the Board or by the State Government. The Study Team should consist of experts in this line and steps should be taken for development of the entire area as recommended by the Study Team.

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