

AN
ENVIRONMENTAL IMPACT ASSESSMENT
REPORT ON
DIPAR BIL BASIN AREA



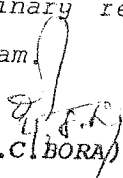
AUGUST, 1989

ASSESSMENT MADE BY -
ASSAM POLLUTION CONTROL BOARD
BAMUNIMADAM, GUWAHATI--781021

AN ENVIRONMENTAL
IMPACT ASSESSMENT REPORT ON
DIPAR BILL BASIN AREA,
(Located at South West of greater Guwahati).

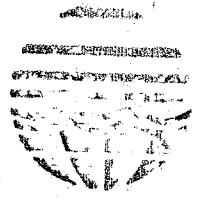
The construction of B.G. Railway line through the Dipar Bil (a vast swampy area) started during the current year (1989) and at this stage a chorus of protests emanated from different quarters culminating in stopping of further construction.

Under this circumstances, it was felt necessary to prepare this preliminary report at the intent of the Government of Assam.


(C.C. BORA)

Date 4th August, 1989.

MEMBER SECRETARY.



A PRELIMINARY ENVIRONMENTAL IMPACT ASSESSMENT ON
DIPAR BILL AREA DUE TO PROPOSED RAILWAY LINE TO BE CONSTRUCTED
THROUGH BY NORTH FRONTIER RAILWAY.

Dipar bil is one of the biggest natural water body, situated south western fringe of the city of Guwahati. In Guwahati Master Plan Area (Published by the Town ands Country Planning Organisation, Notification No. TCP.79/83/5 dated 26th July, 1985) in Section . 2.2, Physical features, the Dipar bil area is included, in Jalukhari/Aizara Plain. The adjoining low lying areas are also included in the same physical division. In the proposed landuse plan (2001) map of Guwahati Master plan area, total low lying areas are 17.37 square kilometres and out of it 10.10 Sq. Km. covers by Dipar bill system.

The Dipar bil system is a well marked physical feature and the area may be termed as 'DIPAR BILL BASIN" (DBB).

1. LOCATION :

The Dipar bil system or the Dipar bill Basin is surrounded by Rani Reserve Forest on the South; Silapahar-Phatasil and Hishishta Mara Nala basin on the east; Kalmani river on the west; and Highlands of Jalukhari on the north.

The latitudinal and longitudinal extention of Dipar Bil Basin area are from 91° 30' 39" to 91° 41' 25" East and 26° 05' 38" to 26° 09' 26" North respectively.

2. HYDROLOGY OF THE BASIN :

Originally, the Dipar Bil system (its natural linkage ^{has} with the Borhola Bill and the Swampy areas of Pandu area to the north-east. But, due to construction of National Highway No. 37 and other civilworks like residential building etc. the Original link has already been disrupted. Presently, Khana Nadi to the ~~south~~ ^{north} of the Bil system is working as main outlet besides a small stream connected with Kalmani Nadi to the west and thus, it is connected with Brahmaputra river to the north.

The Dipar Bil system receives its water mainly from streams and rivers flowing from the south and south-eastern side of the bil, which are feeded with rain water during monsoon period. But, during dry monsoon (winter months) these rivers have no accumulation of water and thus, the bil system is also sink to its minimum level. During rainy season the Bahint-Bashistha river system discharges more than 21 cumec of water to the bil in addition to all other discharge made by streams and streamlets from the south.

2.1. CLIMATE OF THE BASIN :

The average annual rainfall is 1662.21 mm in the basin area. About 90 percent of this rain occurs between April to September, the maximum rainy months being July and August.

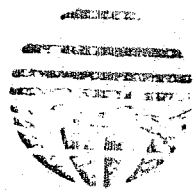
The mean maximum and minimum temperature varies from 24.0-11.0°C in January and 23.20-25.80°C in August.

The relative humidity is more than 70 all throughout the year.

3. FLORA AND FAUNA :

All common species of flora and fauna are found in the basin area of the bil. Tropical evergreen and semi-evergreen forests, herbs, bushes, grasses, reeds etc. are common. In fresh water of beel some common algae are found. Dal grass and other aquatic grasses and species ^{of} aquatic lives are common. In the basin area Lizard, Leeches, variety of fishes, Bees, swampy insects, ants, etc. are common. Animals like fishing cats, fox, wild cat, squirrel etc. are found. Varieties of birds are common wild life in the basin area. Wild duck along with many native species of birds are commonly seen in the area. Seasonal migratory birds are also coming to the bil.

Availability of water, aquatic grasses and herbs, trees in the surrounding foot hill areas—specially forest of Rani R.F. etc. have made Dipar bil an ideal natural bird sanctuary.



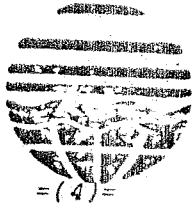
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4. IMPACT OF HUMAN ACTIVITIES :

Originally, during early part of this century the bil area was free of human interference except hunting on the banks. But, growing population and extension of city area have already exerted certain degree of adverse impact in the Dipar bil area. The eco-system has already been gradually damaged due to growing human activities and developmental works done in the Dipar Bil Basin area. In the following table some of the major developmental activities are listed with its adverse effect on eco-system of the bil.

TABLE : 4, STATEMENT SHOWING MAJOR DEVELOPMENT ACTIVITIES WITH ITS IMPACT ON THE DIPAR BIL ECO-SYSTEM.

Sl.No.	Major Dev. Activities.	Impact on the Eco-system of Dipar Bil.
1	2	3
1	Construction of Roads, Railway line and Residential Houses by N.F. Railway in Pandu - Maligaon area, and construction of Residential areas in Tetalia, Gotanagar, Dakhin Jalukbari area.	The water course of the Dipar--Barhola bil system disrupted with the Brahmaputra river.
2.	Construction of Assam Engineering College, Assam Ayuvedic College and Guwahati University (Southern Part and construction of residential area in the Dakhin Jalukbari area.	A part of the Dipar bil has already been filled up with earth. Thus, the north eastern and northern parts of the bil have already been dislinked with Barhola bil and swampy areas of the north-east.
3	a) Construction of N.H. 37 from Jalukbari to khana para area. b) Construction of Dharapur-Rani P.W.D. road.	The eastern side of the bil has dislinked with swampy areas of the north east and eastern side. b) The link between river Kalmani and Dipar bil has been disrupted to the west and north west.



1	2	3
4	a) Diversion of Bahini river (Bharalu river) and creation of Bhini-Basistha water course. b) Diversion of Mara-Bharalu river and linked with Basistha river.	a) Silts from upper course of Bahini and Basistha river gradually shallowed down the bil and also it receives certain amount of raw sewage from Beltola and Hatigaon area of the city. b) Anormous quantity of raw sewage and urban waste have received by the bil through these water courses from the city.
5	Agricultural activities in and around Dipar bil.	The growing agricultural activities have also adversely effected the bil ecosystem. Due to this a significant amount of silt reaches to the bil through streams and storm water.
6.	Deforestation	Due to deforestation and unplanned cutting of vegetative covers in surrounding hills and Rani R.F. area-- in rainy season the barren hills accumulated significant silts in the bil.

The major human activities listed in the aforesaid table (Table-4) have already exerted some adverse effect on the Eco-system of the Dipar bil since the beginning of this century. Thus, the original bil on Lake Eco-system has moulded into present position. A part of the bil has already been converted either into paddy field or into residential area.

5. FUTURE DEVELOPMENTAL ACTIVITIES AND ITS IMPACT ON DIPAR BIL :

The modified Final Master Plan of Greater Guwahati area (Govt. of Assam Notification No. TCP.79/83/56 dated 25th September, 1986) clearly reveal that Dipar bil area (the basin also) included in the master plan. In this master plan it is proposed that the bil should be developed as MAJOR RECREATIONAL AREA (in the form of Botanical Garden cum City Forest). The area is to be developed to regional park with Picnic spot, together with boating and fishing facilities.

Moreover, in the Master Plan map (NO. DRG No. TPO/GMP/85-86/06 dated 28th June, 1989) a proposed National High way is shown from east of Kahikuchi Agriculture farm to Betkuchi through southern boarder of Dipar bil.



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Recently it is learnt that the N.F. Railway also proposed to construct B.G. Railway line through Dipar bil.

Considering all these proposed development activities, it may be assessed the following future adverse effect, ^{which} would cause more harm to the ecosystem of the natural lake (Dipar bil) :-

TABLE : 5, FUTURE ADVERSE EFFECT ON THE ECO-SYSTEM OF DIPAR BIL DUE TO SOME PROPOSED DEVELOPMENTAL ACTIVITIES.

Sl.No.	Future Dev. Activities.	Expected Impact (Adverse)
1	2	3
1.	Proposal of Major Recreational area (in the form of Botanical Garden cum city forest)-- Regional Park, Picnic Spot, Boating and fishing ground.	Recreational area will attract people to the area and also picnic and boating facilities will also attract more people, vehicle etc. and this will cause : i) Disturbance to aquatic life. ii) Disturbance to birds population. iii) Disturbance to animal Kingdom and also, iv) Accumulate waste to the area from gathering of people and Hotels, Bars etc.
2.	Construction of National High way (as proposed) through southern part of the bil (please see map No. 1.)	i) This will create easy flow of traffic and will create unnecessary noise and air pollution to the area.
3.	Construction of B.G. Rly. line through/north western side of Dipar bil, proposed alternative tentative alignment (please see map No.2).	i) If it is constructed through Dipar bil, the entire Lake ecosystem will be damaged and this may create more water logging in many parts of the city, as it is used as storm water reservoir of the city. ii) If the B.G. Rly. line is constructed through the north western part of bil, near by the campus of Assam Engineering College, then the north-western part of the bil will be dislinked and also the residential area and the A.E.C. academic environment will be disturbed. iii) Construction of B.G. Railway line through or to the north western and northern side of the bill will create enormous damage to the aquatic ecosystem as well

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as to wild bird population due to movement of Trains and its noise.

6. FEW RECOMMENDATIONS FOR FUTURE DEVELOPMENTAL WORKS:

Considering present and future (proposed) developmental activities, following recommendations may be taken into consideration with a view to protect and safeguard the prevailing eco-system of Dipar bil basin area. For this purpose following two principles may be adopted by all development departments:

6.1. The pristine quality of our air, water, earth, lake, flora and fauna etc. should not be upset by our activities and restoration of nature, its beauty and freshness should be accounted in any proposal of our planning and development; and

6.2. Development without destruction is the only solution to protect and restore the terrestrial environment, only we have.

Therefore, based on these environmental ethics following recommendations are put forwarded with a view to protect the Dipar bil eco-system as well as to proceed with our developmental proposals.

6.3. The present undisturbed area of Dipar bil should well demarcated by the Forest or Revenue department in consultation with Science, Technology and Environment Department, Govt. of Assam and such demarcated area may be notified in Assam Gazette. Sufficient protection should be assured/taken with a view to protect the demarcated area.

6.4 With a view to make co-ordination and safeguard the Dipar bil from any future damage, a 'Dipar Bil management committee' may be constituted with the following members :-

- | | | |
|-----|---|--------------------|
| 1. | Secretary, Special Commissioner, S.T.E. Dispur | - Chairman. |
| 2. | Joint/Deputy Secretary, S.T.E. Dept. | - Member. |
| 3. | C.C.F. (General) | - Member. |
| 4. | General Manager(Construction) N.F. Rly. | - Member. |
| 5. | Chief Engineer, Floods Control | - Member. |
| 6. | Director, T.C.P. Dept. | - Member. |
| 7. | Chief Engineer P.W.D./High Way | - Member. |
| 8. | Member Secretary/Representative Assam Pollution Control Board. | - Member. |
| 9. | Principal, Assam Engineering College | - Member. |
| 10. | Prominent Environmentalist/Educationist/Scientist/Social workers etc. | - 2 (two) Members. |

6.5. Sufficient measures should be adopted with view to stop accumulation of sewage or urban waste through water courses or rivers, which have connected with Dipar bil system. If necessary, sewage treatment Plants may be constructed for treatment of city water and only treated water should be allowed to go to the reservoir (Dipar bil).



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6.6. Unauthorised encroachment in and around Dipar bil area (demarcated) should be evicted.

6.7. Construction of any major building, roads, railways or any other major civil works should be stopoped. For such construction the bil eco-system should not be totally or partially disturbed. The proposed Highway and the Borad Gauge Railway line should be constorcted through the southern and south-eastern side (as shown in the map No. 1) along the boarder of the proposed highway i.e., through the northern fringe of the Rani Reserve Forest. In such constorct-
ion, sufficient measurs should be taken on the following aspects.

6.7.1. Sufficient member of Speel-way/culvert/bridges should be constorcted, so that stream water can pass through it from the southern foot hill areas and without such measures waterlogging may be taken place in foot hill areas.

(desired alternative)

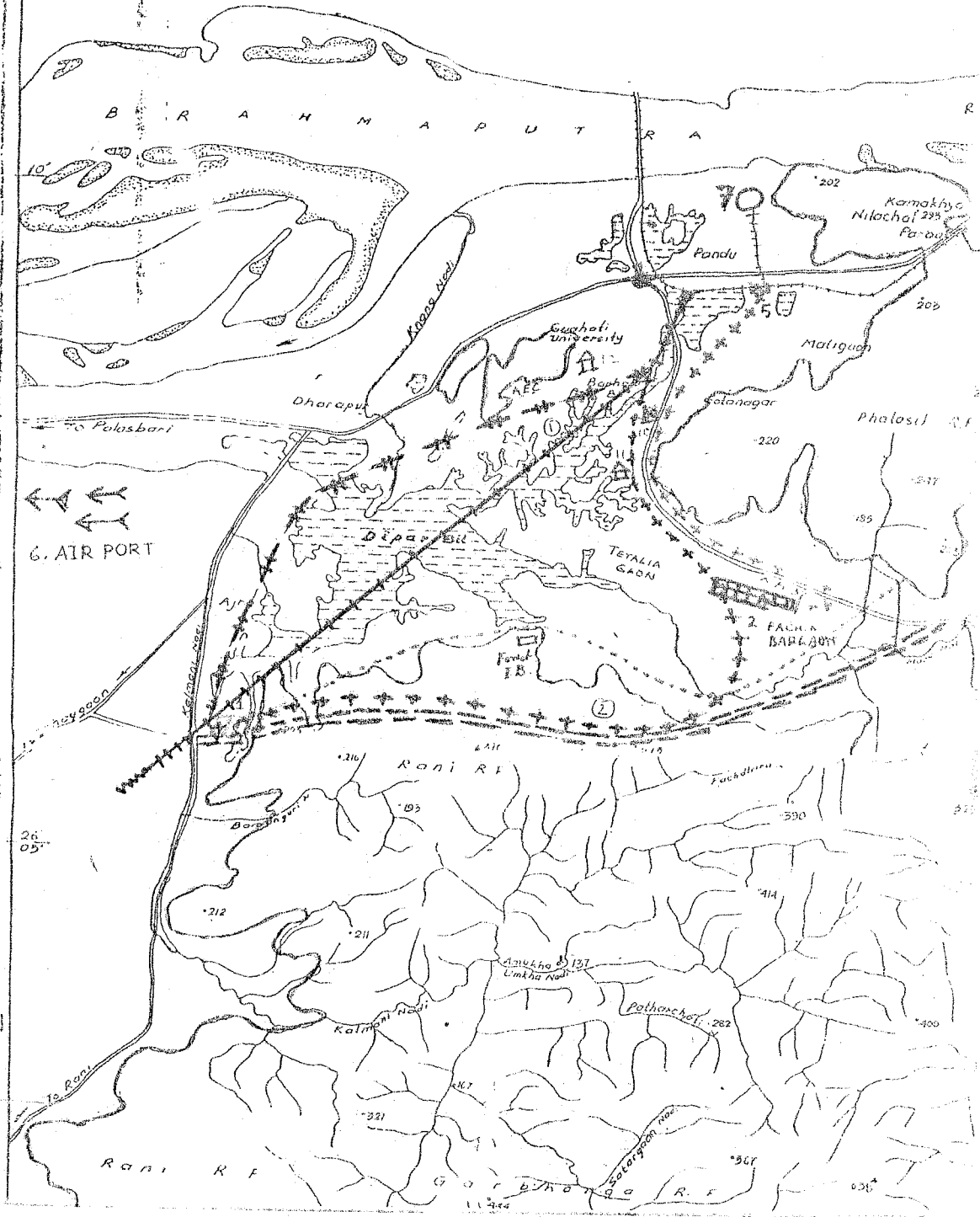
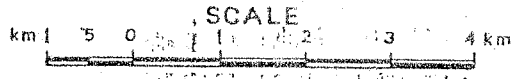
6.7.2. To the northern side of the proposed Railway line or Highway suffi-
cient thick plantation should be made with a view to protect the Bil Ecosystem from air and noice pollution.

6.8. Construction of Railway Goods Terminal at Pachim Bora Gaon should ensure prevention of pollution in the Basistha Mora-Nadi (Mora Bharalu) river system, so that the river and the lake water should not be polluted,.

6.9. Any other environmental protection measures to be suggested by the governments and concerned agencies or by the aforesaid committee (under Section 6.4).

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WESTERN PART OF GREATER GUWAHATI AREA SHOWING LOCATION OF DIPAR BIL AND PROPOSED B.G. RLY. LINE



KEY

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|---|---|--|
| <ul style="list-style-type: none"> 1. HADRA YARD (ENCLOSED) 2. GLEYS AND SHEDS YARD AT TARGHON 3. NORTHERN CO. PRIVATE (ENCLOSED) 4. ... 5. ROAD ... | <ul style="list-style-type: none"> 6. ... 7. ... 8. ... 9. ... 10. ... | |
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