

Justification for locating the project in forest land and details of alternatives examined

Name of the project: Extension of Brahmaputra Dyke Ph-IV from Chaulkhowa Medella gaon to Madhupur Deurigaon

Originally the river Brahmaputra had been flowing by about 4 to 5 km away from its present course adjacent to Dibrugarh town. Erosion of river bank had been prevailing even in olden days in front of the town. But as the river was far away, much attention to the problem was not given those days expect some temporary palliative measures at places of erosion. After the great earthquake of 1950, heavy landslide occurred on the hill faces in Arunachal Pradesh resulting downward movement of huge sediment load in the river and deposition of the same on riverbed. As a result, the riverbed suddenly rose forming sand island/char and multiple channels and this disturbed the otherwise stable flow patten of the river. This situation had aggravated the erosion problem of river bank on either side due to adjustment in cross-section to accommodate the full flood discharge of the river and spilling of floodwater over riverbanks during every flood. The process of rise of riverbed has been continuing since then and the Dibrugarh town with adjoining areas was being flooded almost every season. Thus, both bank erosion and floods had been acting jointly as disturbing elements to the prosperous Dibrugarh town and adjoining areas and the economy of the state of Assam had been severely affected it was reported that almost half of Dibrugarh town and engulfed by the river during the period 1952-54. The main cause of occurrence of such devastation is attributed to the significant change of the river configuration on the upstream and downstream of Dibrugarh town and the tendency of the Brahmaputra south channel to migrate laterally towards the southern bank due to the morphological changes of the river bed after the great earthquake of 1950. At present the reach of erosion is concentrated at Nagaghuli and Rohmoria area at a distance of about 22km upstream of Dibrugarh town. During the period from 1953-2003, the river has engulfed 8707 hectares of valuable land in Dibrugarh district.

The entire Dibrugarh district was under the grip of abnormal floods in the year 1988 and 1998 when the river Brahmaputra and all its tributaries were in high spate. The H.F.L. REACHED 106.32 M ON 26.8.88 AND 106.48 ON 03.9.98 at Dibrugarh. The entire Dibrugarh town was in panic and the town was partially evacuated. The then Prime Minister of India, Late Rajib Gandhi accompanied by Madame Sonia Gandhi had made a spot visit of the flood affected areas of the district to assess the flood damages and to meet the flood affected people

In order to prevent flood water spilling and flooding of the Dibrugarh town and adjoining areas, the following dyke system were constructed.

- a) In order to prevent flood water spilling and flooding, a 9.60 km long earthen dyke was constructed in 1955-56 in front of the town from Maijan to Mohonaghat.

- b) Dyke was extended towards downstream from Mohonaghat to Tinkhong for a length of 13.17 km based on 1959. **(B/Dyke Ph-I).**
- c) Dyke was further extended towards downstream from Tinkhong to Dehingmukh for a length of 5.09 km based on 1962 HFL. **(B/Dyke Ph-II)**
- d) As the flood level had been rising continuously in each year due to rise in bed level, this dyke was raised and strengthened twice, once on 1963-64 and then in 1977-78.
- e) The dyke is a part of Brahmaputra Dyke and was named as Dibrugarh Town Protection (DTP) dyke.
- f) The dyke was thereafter extended towards upstream m upto Oakland for 9.10 km in 1979-80 also.
- g) **The Brahmaputra Dyke was extended towards downstream upto Dehingmukh for a length of 2.10 km in 1990-91. (B/Dyke Ph-III).**
- h) Spilling of flood water through the Maijan channel into Maijan area was prevented by constructing one additional dyke of 4.70- km length up to Titadimaru in 1977-78.
- i) However, the Brahmaputra Dyke Ph-I, Ph-II, and Ph-III was handed over to Railway authority for the Bogibeel Project. **Railway Authority extended the B/Dyke Ph-IV for further 1.525 km.**

The Brahmaputra dyke was extended gradually downstream as per requirement 1959, 1962 & 1990 to prevent the bank spilling and flooding of downstream areas of the Dibrugarh Town. The B/Dyke Ph-I, Ph-II & Ph-III protects a huge area covering several villages like Bogibeel and Chaulkhowa area from flood inundation during peak flood of river Brahmaputra. However the villages like Chaulkhowa Doloni gaon, Charaihabi, Dighalagaon, Nepaligaon. Thekerapukhuri Mishing gaon, Baroghoria Mishing gaon, Modhupur Deurigaon, Dighalagaon Medella Mishing gaon etc. still suffer from flood ravages during high flood period leading the chronic losses of valuable live stock and agricultural products besides endangering losses lives and properties.

In the 1st wave of flood in the month of April 2010, the river level attained high level at Dibrugarh causing extensive bank erosion at several reaches like at and around Dibrugarh Town. The downstream reaches at Chaulkhowa Doloni gaon area were also severely affected by bank erosion and the average depth of erosion was around 50M. A large chunk of valuable areas has been eroded away. Moreover, these area also suffered from flooding due to bank spill and inundates several villages like Chaulkhowa Doloni gaon, Charaihabi, Dighalagaon, Nepaligaon, Thekerapukhuri Mishing gaon, Baroghoria Mishing gaon, Modhupur Deurigaon, Dighalagaon Medella Mishing gaon etc. The construction of the Bogibeel Railway Bridge has further aggravates the already delicate situation as these fall in the “flaring up action reach” of the constructed section of river channel due the proposed bridge.

Considering the gravity of the situation the Railway Authority has already raised the Brahmaputra Dyke Ph-I, Ph-II & Ph-III and further extended the Ph-III dyke with a length of 1.525 km. However, now it was found necessary to further extend the dyke system at downstream reaches by another around 4.10 km to prevent the flood damages to these areas and derive maximum benefit of the earlier works. The matter was discussed with the District Administration and Railway Authority on several occasion and at different forum. It was decided in principle to further extend the PH-III dyke further and accordingly a memo was prepared

with provisions of extension of the existing Brahmaputra Dyke for another 4.10 Km to minimize the effect of backwater flow of Brahmaputra and reduced the flood damages to vast areas of Modhupur area under west Revenue Circle of Dibrugarh District. Moreover, there is huge public demand for extension of the dyke further for providing permanent solution to the flood devastation to these areas.

Accordingly, a Memo was prepared with provision of construction of new embankment to further extend the existing dyke and placed before the 64th TAC held at Guwahati on 18th and 19th February 2015. TAC after detail deliberation recommended the memo of work. Accordingly this DPR has been prepared with provision as recommended in the 64th TAC and submitted for necessary approval from CWC.

Accordingly, the DPR of this project with name and nomenclature of "Extension of Brahmaputra Dyke Ph-IV from Chaulkhowa Medella gaon to Madhupur Deurigaon" amounting to Rs 21.593 Cr has been prepared and forwarded to higher authority for subsequent approval and sanction of fund. This DPR is proposed for construction of embankment of length 4100M for providing flood protection to large areas of villages like Chaulkhowa Doloni gaon, Charaihabhi, Dighalagaon, Nepaligaon, Thekerapukhuri Mishing gaon, Baroghoria Mishing gaon, Modhupur Deurigaon, Dighalagaon Medella Mishing gaon etc under Dibrugarh West Revenue Circle, from the flooding from river Brahmaputra. The total benefitted area is around 10,000 Hectors. The Medella Forest areas which also suffers from chronic flooding will be benefitted.

The project reach covers a length of 4.10 which starts from Chaulkhowa MedellaGaon on upstream to Modhupur gaon area at its downstream. The project reach has been selected on priority because of its socio-economically developed agricultural entity and importance of protecting the highly productive agro-economic developing area from fury of floods and preventing loss of valuable rural industrial and tea garden lands. The project area, besides being neighbourhood of Dibrugarh town with important establishments like University, administrative and technical offices, residential area, small and big industries etc. covers semi-urban and rural area also.

The proposed project has been located in the forest area because the tail point of the B-Dyke phase III ends near the border of the Medella forest from where the proposal for extension of Bdyke Phase IV starts. As such no feasible alternative proposal exist for providing flood protection to these areas


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