



CITIZEN'S CHARTER

OF

BRAHMAPUTRA BOARD

Government of India
Ministry of Water Resources
River Development & Ganga Rejuvenation

Basistha, Guwahati-29

April 2016

BRAHMAPUTRA BOARD

CITIZEN'S CHARTER

Vision:

Leadership role in water resources management of Brahmaputra and Barak Basin for sustainable development of water resources to provide optimum benefits to the people with emphasis on control of flood and bank erosion.

Mission:

- To assess basin-wise water resources and plan for its optimal utilization.
- To identify water related problems and suggest suitable measures for their mitigation with emphasis on control of flood and bank erosion.
- To plan and implement water resources projects in Brahmaputra and Barak Basin including flood control and anti-erosion schemes.

Objectives :

- To prepare Master Plan of river basins for optimum utilization of water resources with special focus on flood management and bank erosion.
- To assist states in Brahmaputra and Barak Basin in planning and implementation of flood control and anti-erosion schemes.
- To formulate and execute water resources projects including flood control and anti-erosion schemes identified in the Master Plan.

Functions:

- Collection, compilation and analysis of basin-wise data for preparation of Master Plan.
- Preparation of Detailed Project Report (DPR) of Multi Purpose Projects identified in the Master Plan and their execution.
- Preparation of DPR of Drainage Development Schemes identified in the Master Plan and their execution.
- Assist states in Brahmaputra and Barak Basin in preparation of estimates/DPR of flood control and anti-erosion schemes and other water resources projects including their implementation and undertake monitoring during construction.
- Take up execution of flood control, anti-erosion, drainage development schemes and other water resources projects with the consent of the concerned State Government.

BACKGROUND

The Brahmaputra Board was constituted in the year 1980 by an Act of Parliament (No. 46 of 1980 called "The Brahmaputra Board Act, 1980") with the objective of planning and integrated implementation of measures for control of floods and bank erosion in Brahmaputra and for matters connected therewith. It started functioning since 11th January, 1982 with headquarters at Guwahati, Assam. The jurisdiction of the Board includes the states of Arunachal Pradesh, Assam, Meghalaya, Manipur, Mizoram, Nagaland, Tripura, Sikkim and northern part of West Bengal falling within the Brahmaputra Basin.

Profile:

The Brahmaputra Board has carried out detailed planning and documentation of the enormous water resources of the North Eastern Region and related problems and potentials which includes preparation of Master Plan, survey, investigation and preparation of detailed project reports of the multipurpose projects and of the drainage congested areas and anti-erosion schemes giving importance to development and utilization of water resources of the Brahmaputra and Barak valleys for hydropower, navigation, and other beneficial purposes. Its assignment also includes preparation of DPR of the dams and other projects identified in Master Plans as approved by the Central Government and to take up construction and maintenance of the projects approved by Central Government and works connected therewith as proposed in the Master Plans and also to maintain and operate such dams and other projects.

Preparation of Master Plan:

Brahmaputra Board has so far identified Master Plans of Brahmaputra and Barak river system, rivers of Tripura, south flowing rivers of Meghalaya and rivers of Sikkim and North Bengal area falling in Brahmaputra Basin. Due to enormity of task, the work has been divided into three parts as under:

Master Plan Part- I, i.e. Main stem of Brahmaputra - approved by Government of India.

Master Plan Part- II, i.e. The Barak River and its tributaries - approved by Government of India.

Master Plan Part-III, i.e. The Master Plans of 68 tributaries of the river Brahmaputra, Majuli Island, 9 rivers of Tripura, 12 rivers of Meghalaya, 1 river of Manipur, 2 rivers of Mizoram, 3 rivers of Sikkim and North Bengal falling in Brahmaputra Basin.

Out of 68 identified Master Plans, so far 62 Master Plans completed by Brahmaputra Board. 49 Master Plans approved by Government of India, have been sent to the concerned States for necessary action and implementation, 8 (eight) sub-basin Master Plans have been approved by Brahmaputra Board, were submitted to

Ministry of Water Resources, RD & GR for approval of Government of India. Further observations of MoWR are being attended in Board. 5 Sub-Basin Master Plans of Meghalaya have been completed. One circulated to Board members for furnishing views/comments to place the same to the Board for approval. Four Sub-Basin Master Plans are being circulated to Board Members for approval of the Board. The Master Plans prepared river basin/sub-basin wise, include information on Water Resources available, temporal distribution of Water Resources, design flood, water requirement for various uses, water balance study, problem areas identified, past works done, suggested measures for tackling balance problem, probable cost of measures suggested, benefits likely to accrue on implementation of Master Plan recommendations etc. The main recommendations include both structural and non-structural measures for flood management on short, medium and long-term basis apart from multi-purpose projects.

Investigation and Preparation of DPR for Multipurpose Project

Brahmaputra Board identified and started "Survey and Investigation" for preparation of 'Detailed Project Reports' (DPRs) for 14 (fourteen) Multipurpose projects till now. DPRs for Single Dam project proposal for Subansiri and Siang (Dehang) were prepared by Brahmaputra Board but could not start the execution because of objections from Government of Arunachal Pradesh on account of submergence. Therefore, Brahmaputra Board modified Subansiri and Siang (Dehang) Projects proposal with a series of 3 dams in each river basin. Subsequently, these 3 project proposals on Subansiri and 3 projects proposals on Dehang were handed over to NHPC in March, 2000 for further implementation and execution. Tipaimukh project, for which Brahmaputra Board prepared DPR, was handed over to NEEPCO for execution. Similarly, investigations of the Bhairabi project was completed in March, 2000 and DPR prepared by Brahmaputra Board, was handed over to Mizoram Government for execution. Preconstruction works of Pagladiya Dam Project were started by Brahmaputra Board in 2001. Brahmaputra Board completed the Feasibility Report for Debang & Kynshi - I M.P.P during X Plan. Dibang Dam Project has been handed over to NHPC for DPR preparation and implementation. The execution of Kynshi Stage-I & II projects have been entrusted to private developers by Government of Meghalaya. Kulsi MPP and Noa - Dehing MPP were declared as 'National Project' and the DPRs completed and submitted to Ministry for approval. Brahmaputra Board also completed the Survey and Investigation (S&I) work of Lohit Dam Project which has also been entrusted to private developer by the Government of Arunachal Pradesh. DPR for Jiadhhal dam Project is targeted for completion during 2016-17. DPR of Simsang MPP and Killing Dam Project are targeted for completion during 2015-16.

Present Position of Pagladiya Dam Project:

The project meant for flood moderation to benefit an area of 40000 ha, irrigation to 54,160 ha and incidental power generation of 3 MW has been proposed across Pagladiya River at Thalkuchi in Baska District which falls under Bodoland Territorial Autonomous District (BTAD) in Assam. The project envisages construction of 25m high and 21km long earth dam with a concrete spillway. Government of India

has sanctioned the project in January, 2001 at an estimated cost of Rs. 542.90 crore for construction by Brahmaputra Board.

- Works carried out since 2001
 - Pre-construction survey, investigation, studies, design, drawings etc.
 - Taking possession of land (956 ha) for Resettlement and Rehabilitation (R&R) purpose
 - Construction of project roads, offices, etc.
 - Preparation of technical specifications and tender document
 - Pre-qualification of contractors for main works

The implementation of Pagladiya project has been suspended and all activities are closed since June 2013 due to inability of State Government to provide required land for construction and rehabilitation.

Execution of Drainage Development Scheme (DDS):

Brahmaputra Board identified 41 Drainage Development Scheme based upon studies carried out under 49 approved Master Plans. During 2015-16 the DPR of Pota-Kolong, Nelli & Kolamonijan are completed and submitted to MoWR. The Techno-economic clearance of DPR for Pota-kolong has been received. The revised DPR of Demow is submitted to MoWR.

Harang Drainage Development Scheme (Rs. 30.49 crore): The Harang Drainage Development Scheme with an estimated cost of Rs. 30.49 crore was executed by Brahmaputra Board in the Cachar District of Assam. The Scheme was started in the year 1999-2000. The scheme was completed in March, 2011 with a total expenditure of Rs. 30.22 crore up to March, 2012 and handed over to the Government of Assam on 31.05.2013. The scheme benefits 11850 ha of chronically drainage congested areas in Barak Valley, Assam for agriculture.

East of Barpeta Drainage Development Scheme (Rs.2.96 crore): The East of Barpeta drainage development scheme with an estimated cost of Rs. 2.96 crore was taken up for execution in March 2009. The scheme completed in June, 2011 and handed over to the Water Resources Department, Government of Assam on 04.08.2012. Expenditure incurred against the scheme up to March, 2012 is Rs. 2.70 crore. The scheme benefits 2852 ha of chronically drainage congested areas in Assam for agriculture.

Barbhag Drainage Development Scheme (Rs.14.80 crore): The scheme was taken up during the year 2006 with an original estimated cost of Rs. 7.2307 crore. The design of sluice regulator is modified by Central Water Commission (CWC) and techno-economic clearance for the revised estimate amounting to Rs. 14.80 crore has been received from Central Water Commission (CWC) vide letter No. 17/7/Appraisal/BB/2012-M&AG/1037-40 dated 29.06.2012. The work of construction of

sluice has been started and the progress of the work up to March, 2016 is 13.50% at the expenditure of Rs. 8.04 crore. Works for raising and strengthening of embankment, re-sectioning of channel have been completed. The target for completion of the scheme is in the year 2016-17. The scheme benefits 4000 ha of chronically drainage congested areas in Assam for agriculture.

Amjur Drainage Development Scheme (Rs.14.15 crore): The scheme was techno-economically cleared for an amount of Rs. 14.15 cr. in January, 2006. The execution of Amjur DDS was taken up in the year 2006-07. The work order for raising and strengthening of existing embankment has been completed. Expenditure incurred upto March, 2016 is Rs. 15.48 crore (including cost of land acquisition) with overall physical progress of 33.50%. The scheme has been revised to Rs. 56.37 cr. and submitted to CWC for techno economic clearance. The scheme benefits 7200 ha of drainage congested areas in Cachar District, Assam for agriculture.

Jakaichuk Drainage Development Scheme (Rs.2.96 crore): The scheme at an estimated cost of Rs. 2.96 crore was taken up for execution during the year 2008-09. Work for Rs. 1.35 crore is completed against the physical progress of 45% up to 31.03.2012. Due to objection of local people regarding non existence of overflow section to facilitate passage of floating debris through the sluice, the work has been suspended since March, 2010. The work has been resumed in 2013 and 93% of physical progress achieved upto March 2016 with expenditure of Rs. 2.31 crore. The Scheme is targeted for completion during 2016-17. The scheme benefits 2308 ha for agriculture.

Other Drainage Development Schemes:

Techno-economic clearance of **Jengrai** DDS was received in the year 2006-07. The scheme is presently under execution. Progress of the work up to March 2016 was 27% at the expenditure of Rs. 1.04 crore. The DPR has been updated to Rs. 5.23 crore and cleared by CWC. The tendering process for the balance work has been initiated.

Techno-economic clearance in respect of **(a) Joysagar (b) Singla and (c) Kailasahar** Drainage Development Scheme was also received in the year 2006-07. Work programme of Kailasahar DDS has been dropped due to inability of Government of Tripura in acquisition and transfer of land to Brahmaputra Board. As per decision of 53rd meeting of Brahmaputra Board, Jaysagar DDS has been deleted from the identified list of schemes for drainage development.

Due to non-availability of required land for its execution as per DPR, alternative study with changed scope of work in respect of Singla drainage development scheme was carried out. However, alternative site found to be non feasible.

North Eastern Hydraulic and Allied Research Institute (NEHARI):

North Eastern Hydraulic and Allied Research Institute (NEHARI) was established at Rudreswar (North Guwahati) as an outcome of Assam Accord with the following facilities-

- i) Hydraulic Laboratory with facilities for 4(four) model trays & flumes

ii) Material testing laboratories viz.

a) Soil mechanics (b) concrete and construction material (c) foundation rock

NEHARI was operationalized at a total cost Rs. 14.00 cr. during 1996. NEHARI has so far undertaken testing of soil, concrete and rock samples as requisitioned by various organizations/project authorities of North East Region (NER) besides laying of 7(seven) physical model. Out of these, following physical model studies were undertaken on sponsorship basis-

1. Brahmaputra River Model of Phulbari Reach – sponsored by NEC
2. Physical Model of River Jia-Bharali – sponsored by BRTF (Vartak)
3. Physical Model of River Jiadhal – sponsored by NEC

Model Studies carried out for works executed by Brahmaputra Board-

1. Model studies of Majuli Island for long term solution of flood problem
2. Model studies for construction of guide bund for a specified reach in Majuli in the river Brahmaputra

Since, in the North Eastern Region, clear weather is available for a limited period only (October to March) scope for physical model studies under open sky is also limited. To overcome the situation, a couple of Hangers over the model trays have been constructed during 2010.

NEHARI has got working arrangements with two premier institutes of the country, namely Central Water and Power Research Station (CWPRS), Pune and Central Soil and Material Research Station (CSMRS), Delhi.

Flood Management Works:

Avulsion of Brahmaputra at Dhola–Hatighuli:

The combined flow of Dibang and Lohit River was originally out falling into Dihang River at about 25 km downstream of Saikhowa reserve forest at Kobo. The discharge in the rivers Dholla, Dangri and Dibru increased year after year due to avulsion of Lohit through Anantanala and Balunala which took place in the year 1992. This problem was further aggravated due to Dibang flowing from north to south direction and pushing the flow of Lohit towards its south bank. Avulsion/offshoot channel of Lohit and Dibang were flowing with 90% of their discharge and out falling into Brahmaputra at North Balijan instead at Kobo during 2001-02.

Avulsion of Brahmaputra at Dhola–Hatighuli Phase-I, II & III: The Brahmaputra Board initially took up the Phase-I work amounting to Rs. 10.47 crore during January, 2003 and succeeded in diverting Dibang River to its original course. Again, Phase-II work amounting to Rs. 4.16 crore was completed to push the river Lohit towards its north bank during 2004. Further, Phase-III works for an amount of Rs. 8.47 crore has been completed during 2007-08.

Avulsion of Brahmaputra at Dhola-Hatighuli Phase-IV: Subsequently, Dhola-Hatighuli-Phase-IV (renamed as 'Restoration of river Dibang and Lohit to its original course') has been started from 2011. The TAC approved the revised estimate amounting to Rs. 55.81 crore in March, 2016 and the works of R.C.C. porcupine, tie-bund and pilot channel have been carried out. Works completed in March 2016 with an expenditure of Rs. 55.81 crore.

Outcome: 11 villages under Doomduma Revenue Circle in an area of about 1500 ha got protection from floods, since the year 2004 onwards.

Avulsion of Brahmaputra at Dhola-Hatighuli Phase-V: Again, two estimates- (i) 'Conversion of the existing tie bund across the spill channel of river Dibang from chainage 480.00 m to chainage 2550.00 m in to a full-fledged embankment at Bahbari' at an estimated cost of Rs. 9.22 crore and (ii) 'Restoration of original channels of Dibang and Lohit Rivers at Dhola-Hatighuli' at an estimated cost of Rs. 309.71 crore under Phase-V have been formulated based upon recommendations of 8th visit of Standing Committee of Experts. These two estimates are under appraisal in Central Water Commission. Estimate at serial number (i) above is under examination at Regional Office of CWC and estimate at serial number (ii) above is under examination at Flood Management Planning Wing of CWC, New Delhi and after compliance of observation of CWC the estimated amount has been enhanced to Rs. 363.18 crore. Activities envisaged under Phase-V proposals are planned to be implemented during XII Five Year Plan. On receipt of 'Administrative Approval' & 'Financial Sanction' work will be started. In EFC for XII Five Year Plan Rs. 40.00 crore has been kept for additional works of the Scheme.

Protection of Majuli Island:

On request of Government of Assam, DPR on protection of Majuli Island from flood and erosion was prepared by Brahmaputra Board based on the recommendations in the Master Plan and submitted to the CWC during August, 2000. CWC had techno-economically cleared the scheme in August 2003 for Rs. 86.56 crore. The Project envisaged implementation of protection works in 3(three) phases such as Phase-I, II and III.

Protection of Majuli Island Phase-I: In order to reduce erosion of Majuli Island, protection works were undertaken in the year 2004-05 as "Immediate Measures" at an estimated cost of Rs. 6.22 crore. These works were followed by protection works under Phase-I for Rs. 41.28 crore as a part of DPR cleared by CWC for Rs. 86.56 crore for execution in three phases.

Protection of Majuli Island Phase - II and III: As a long term measure, based on the findings of the model studies, the DPR for Phase-II and III has been techno-economically cleared for Rs. 115.07 crore. The estimate is revised for Rs.115.99 crore and techno-economic clearance from CWC was also obtained in January, 2011. The works under these phases are in progress. Expenditure of Rs. 115.53 crore has been incurred under Phase-II & III up to March 2016 on protection of Majuli Island with

physical progress 92.19%. As a result, the total area of Majuli Island has increased from 502.21 sq km in the year 2004 to 524.29 sq km in the year 2016.

Protection of Majuli Island Phase – IV: As per recommendation of 8th visit of Standing Committee of Expert on Majuli during January 2013, Brahmaputra Board has prepared estimate for protection of Majuli Island Phase-IV amounting to Rs. 200.13 crore and submitted to CWC for Techno Economic clearance in August, 2013. Again the said estimate is modified for Rs. 213.61 crore and submitted to CWC. Implementation of work under Phase-IV will be taken up on receipt of administrative approval and financial sanction from MoWR.

The Government of India constituted a Standing Committee of Experts for Majuli Island under the Chairmanship of the Member (RM), Central Water Commission and the Chairman, Brahmaputra Board, the Chief Engineer (FM), CWC, Director CWPRS, Professor K.G. Rangaraju, retired Professor of IIT (Roorkee), Professor D.C. Goswami Guwahati University and Professor Gana Nath, PD Junior College, Majuli as members vide notification dated 19-11-07. Estimate under Phase-I works had been revised to Rs. 56.07 crore incorporating the recommendations of standing committee as per field requirement after their visits. The work of Phase-I has been completed in April, 2011 at an expenditure of Rs. 53.40 crore.

A proposal for Rs. 213.61 crore has been framed for the activities/works recommended during the 8th visit of the Standing Committee of Experts on 'Protection of Majuli Island from Floods and erosion-Phase-IV' and is under appraisal in Central Water Commission for TAC Clearance of MoWR, Ministry of Water Resources is also requested to include this proposal under XII Five Year Plan, Government of India has conveyed the approval to execute additional works during XII Plan. On receipt of 'TAC clearance', 'Administrative Approval' and 'Financial sanction', new works could be started during XII Five Year Plan. EFC for XII Five Year Plan Rs. 35.00 crore has been kept for additional works of the Scheme.

Protection of Nagrijuli Rangia Town and Mukalmuwa/Barbhag area from flood and erosion of Barnadi River: - Protection works of Nagrijuli Rangia Town and Mukalmuwa/Barbhag area from flood and erosion of Barnadi River was taken up by Board and successfully completed during 2009-10. The benefit of the scheme is 35.11 ha of Baksa District in Assam for agriculture.

Anti erosion measures to protect Kushiabil & Durgajan Village at Dimapur of river Dhansiri (S) – (Rs. 2.4 crore): Protection of Kushiabil & Durgajan village from erosion of river Dhansiri (S) in Dimapur, Nagaland was taken up by Board in 2 (Two) phases. The Phase-I works were completed during 2005-06 and the works under Phase-II were completed during 2007-08. The benefit of the scheme is 150 ha of Dimapur in Nagaland for agriculture.

Flood Control and River Management Works under Flood Management Programme (FMP) - State-Sector Scheme

During X Plan, the Government of India approved for execution of schemes in the state of Assam under "Critical Flood Control & Anti-erosion Scheme in Brahmaputra and Barak Valley (State sector)" with funding pattern of 90:10 as grant and state share. An amount of Rs. 146.20 crore was released by the MoWR during X Plan for execution of these schemes.

The status of Central Assistance provided under "Flood Management Programme" to the States of Assam, Arunachal Pradesh, Nagaland, Sikkim, Mizoram, Meghalaya, Manipur, Tripura and West Bengal under the jurisdiction of Brahmaputra Board is given at page 41 & 42.

During XII Plan Board was entrusted with the responsibility of monitoring of progress of schemes under Flood Management Programme of Ministry of Water Resources, RD & GR in the jurisdiction under Brahmaputra Board.

Long term strategy for Management of Floods and Bank Erosion Control in Brahmaputra Basin:-

Long term strategy for the management of floods in Brahmaputra Basin has been brought out in the Master Plan of main stem of Brahmaputra, prepared by Brahmaputra Board and approved by Government of India. These long term strategies are given below:-

- Multipurpose storage dam projects;
- Watershed management;
- River training works;

Some reaches of river Brahmaputra experiences heavy erosion on both the banks which sometime results in development of side channels also. The causes of heavy erosion are identified to be excessive sediment loads, steep bed gradients, erodable nature of bank materials etc. The erosion is mostly observed at places both on the upstream and downstream of stable reach or nodal points. It has been suggested in the master plan that the reaches of the river where erosion is acute should be studied and examined on scientific basis to find out causes of formation of Char-land in the middle and side channels along either bank. It has also been suggested in the master plan that the reach-wise behavior of the river in regard to the other conditions like velocity distribution, boundary condition, silt carrying capacity and other parameters should be examined from one nodal point to the other.

Over the years, only short-term measures were taken for river training on site specific points. Some beginning has to be made to start long-term measures to tackle riverbank erosion problems.

In view of a long term solution to flood and erosion control in the region, Brahmaputra Board has prepared a conceptual proposal for "River Stabilization Measure in the main stem of Brahmaputra". Brahmaputra Board had approached the IIT, Guwahati for Mathematical Model Study of River Brahmaputra. A proposal for "Mathematical Model Study of River Brahmaputra with emphasis on Climate Change" has already been recommended for implementation by Central Water

Commission at an estimated cost of Rs. 2.80 crore. The MoU in this regard has been signed with IIT, Guwahati.

Organizational Structure:

The organizational structure of the Brahmaputra Board, which is headed by the Chairman, is shown at **Annexure-III**.

The following offices of the Board are located at Basistha, Guwahati-781029

- a) Secretariat of the Brahmaputra Board
- b) Accounts Wing of the Brahmaputra Board
- c) Office of the Chief Engineer-I
- d) Office of the Chief Engineer-II
- e) Office of the Superintending Engineer, Guwahati Circle
- f) Office of the Executive Engineer, Guwahati Division.

The office of the Superintending Engineer, North Guwahati Circle and Executive Engineer, North Guwahati Division is situated at Rudreswar, Guwahati- 781030. The North Eastern Hydraulic & Allied Research Institute (NEHARI) is also situated here which is being run by the Board on ad-hoc arrangement. The NEHARI is functioning since 1996.

Grievance Redressal Mechanism:

In its pursuit of excellence, the Brahmaputra Board believes in an open door policy. Yet to further promote fair and equitable employee relations in the organization and to ensure harmonious relationship with the environment, the Board has established a grievance redressal procedure for its employees. In order to systematize and strengthen the redressal process, it provides for a time bound mechanism. Grievance Redressal Mechanism procedure provides a channel for an employee to invoke the procedure for seeking remedy to an anomaly arising out of implementation of Board's policy / rules such as salary payment, recovery of dues, working conditions, leave, quarters allotment, medical facilities, withholding of benefits under rule, transfer, seniority, promotion, pay fixation and like issues. The procedure has been formulated so as to aim at resolving the grievances raised, orally or in writing, within a prescribed time frame. It also provides various stages of redressal, giving an opportunity to an aggrieved employee to seek remedy even from the highest authority.

“Activities in the North-Eastern region”

Workshop:

Brahmaputra Board so far has formulated 62 Master Plans of rivers and tributaries in the N.E. Region for protection from flood and erosion. Out of these, 49 Master Plans have been approved by Government of India. On approval of Government of India, the Master Plans have been provided to the concerned State Governments for

implementation of recommendations of Master Plans. Brahmaputra and Barak River System has abundance of water. People in the region have year after year been suffering from problems arising due to abundance of water in the form of floods, bank erosion and drainage congestion. Availability of abundance of water - a scarce natural resource – may effectively be utilized for socio-economic upliftment of the region in particular and the country as a whole. Master Plans have discussed simultaneous management of flood, erosion and drainage congestion and development of river water for economic prosperity of the entire NE Region.

With a view to accelerate the pace of implementation of recommendations of Master Plans and effectively utilize the water resources of the region, as per advise of Ministry of Water Resources, Government of India, a workshop on implementation of recommendations of Master Plans related to State of Assam was conducted in Guwahati during July 2013. The workshop was attended by senior officers of the State Government of North East Region, wherein Shri G. Mohan Kumar, Special Secretary of Ministry of Water Resources presided over. It emphasized the importance and utility of according priority on implementation of the recommendations by all the riparian States of the region for their overall development and prosperity.

Master Plan:

With the objective of management of flood, erosion and drainage congestion and development of water resources for economic prosperity of the entire NE Region, Brahmaputra Board prepared 62 Master Plans by October 2015. In addition, four Master Plans concerning the State of Meghalaya are also under preparation during 2015-16 and another five Master Plans are identified for preparation during XII Five year plan for integrated development of water resources of the State and its overall economic development.

Restructuring of Brahmaputra Board

Constitution of India under Article 246 Entry 56 of the Union List (List 1) provides for regulation and development of inter-State rivers and river valleys to the extent to which such regulation and development under the control of the Union is declared by Parliament by law to be expedient in the public interest. Under these provisions, Brahmaputra Board was created under Brahmaputra Board (BB) Act of 1980 to undertake the development of the master plans for the Brahmaputra Basin. A review of the functioning of the Brahmaputra Board reveals that it did not have a mandate to provide a strong framework for the holistic development of the Brahmaputra river basin with regard to the optimal utilization of land, water and other natural resources of the basin. Some of the shortcomings of the Brahmaputra Board which have been identified are as follows -

- Lack of mandate for basin level planning for integrated water resources development and management with a multi disciplinary approach
- Lack of ownership of the plans and programmes by the State Governments
- Overwhelming emphasis on flood and drainage works
- Need to build up competent engineering cadre to support the activities of the Board

- Apparent concentration of the work done by the Board in the State of Assam
- Non-inclusion of the political or stakeholder's will in the decision making

Change in the Water Governance in North-Eastern Region

This proposal seeks to restructure the existing Brahmaputra Board into a new entity to be called Brahmaputra River Valley Authority. The Authority shall have a policy making Governing Council and an Executive Board which will be the executive agency. The concept of creating a Basin Level Authority is innovative and focused on emergent issues. By involving the highest political executives of the region in decision making, it is expected that the needs of the NE Region in Water Resources will be met adequately. After the approval of Intra Ministerial Consulting-Group and Secretary (WR, RD&GR) a presentation was made on 23.09.2014 to Sushree Uma Bharti, Hon'ble Minister (WR, RD&GR and accompanying Ministers wherein it was decided to present the case to the Chief Ministers of North Eastern States during 7th High Powered Review Board (HPRB) Meeting. The issue was therefore discussed during 7th HPRB Meeting held on 11.02.2015 at Shillong, Meghalaya. The Draft Bill on NEBRRRA was circulated among the participant States for their comments. Comments in favour of formation of NEBRRRA have been received from all the member-states with acceptable suggestions.

Mass Awareness activities on Water Conservation under Tribal Sub plan (IEC activities):

Brahmaputra Board being the nodal organization for the North-East States is going to conduct Mass Awareness activities on Water Conservation under Tribal Sub plan (IEC activities). The activities are proposed like- (a) Preparation of pamphlet, leaflet etc. (b) Specific emphasis on the need of Tribal by hoarding of banner and (c) Special awareness meeting & On-the-spot Art competition in the states of Nagaland, Mizoram, Arunachal Pradesh and Meghalaya will be conducted during January & February 2016.

Swachh Bharat Abhiyan

The Prime Minister of India had given a call for "Swachh Bharat" as a mass movement to realize Gandhiji's dream of a clean India by the 150th birth anniversary of Mahatma Gandhi in 2019. Brahmaputra Board had participated in the "Swachh Bharat Mission" (Clean India campaign) and action taken as follows –

A) During the month of June, 2015 Swachh Bharat Abhiyan was observed in the Brahmaputra Board and following works are carried out:-

- i) On 22nd & 23rd June, 2015 –upkeep cleaning of offices including common area, premises, toilets etc.
- ii) On 24th & 25th June, 2015- weeding out old files/records in the head offices premises
- iii) On 26th June, 2015- upkeep & cleaning of the areas outside the offices including parking lots area.

- iv) On 22nd December, 2015 cleaning of corridors form stacking of unused office furniture
- v) On 23rd to 26th December, 2015 regular cleaning and proper upkeep of office premises

NON-FIELD ACTIVITIES OF BRAHMAPUTRA BOARD DURING THE YEAR ENDING 31.03.2016

A number of bipartite forums comprising the representatives of employees and the management have been established which are as follows:-

a) Complaint Committee on sexual harassment & gender justice:

In pursuance of the Hon'ble Supreme Court's order passed in connection with the writ petition (Criminal) No.666-70 of 1992 in the case of Visakha Vs State of Rajasthan and others, a Complaint Mechanism to deal with such cases in the Board was constituted with seven Committee Members including a Chairperson and Member Secretary. The Committee came into force from 31.12.1997. During the year the committee did not hold any meeting as there was no complaint from any employee.

b) Forum for Disciplinary & Vigilance Cases: - The Board has a Vigilance Wing headed by a part-time Chief Vigilance Officer and assisted by one part-time Vigilance Officer.

Vigilance and Disciplinary Cases

Board has a vigilance wing headed by a part time Chief Vigilance Officer & assisted by one part time Vigilance Officer. The break-up of vigilance/disciplinary cases in respect of different categories of officers and staff is given below-

Table Showing Vigilance and Disciplinary Cases during the year 2015-16(As on 03.03.16)

Sl. No.	Particulars of cases	No of Cases	Remarks
A	Cases for which PE is over	31	
1	Cases on complaint from M. C. Sarma, AEE	20	
2	Cases on complaint from R. U. Barlaskar, AEE	4	
3	Cases recommended by CBI	4	
4	Cases pending where preliminary Enquiry is to be done	3	
B	Complaints referred by CVC	5	
1	Cases submitted to MoWR	2	
2	Case action initiated	1	
3	Cases enquiry in progress	2	

Vigilance Week:

The Brahmaputra Board observed the Vigilance Awareness Week 2015 from 26.10.2015 to 30.10.2015. During the week displaying of banners and Debate competition on vigilance matter were organized.

IMPLEMENTATION OF RIGHT TO INFORMATION ACT 2005

In pursuance of Government of India, MoWR letter No. 31/15/2004-IT/B&B/200 dated 22.12.2005, the Right to Information Act, 2005 had been introduced in Brahmaputra Board on 31.12.2005. After introduction of the Right to Information Act-2005, the Brahmaputra Board had notified all relevant information pertaining to Brahmaputra Board and also published the same in its website as a part of administration and implementation of the Act. The information in the website is being updated from time to time complying the directives and provision of the Right to Information Act-2005.

ACTIVITIES OF PERSONS WITH DISABILITIES

[The Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995]

IMPLEMENTATION OF VARIOUS PROVISIONS OF PERSONS WITH DISABILITIES

The physically challenged persons are given facilities, concessions and relaxations at the time of test / interview as per rules. The relevant rosters as prescribed by the Government are also maintained for indicating the reservation of disabled persons. 3% of posts / vacancies (1% each for Orthopaed, Blind & Hearing Handicapped) are reserved to be filled up from physically Handicapped persons. Periodic reports on the progress achieved are submitted regularly to the Ministry of Water Resources. The Brahmaputra Board is looking forward for improving the existing facilities / concessions available to the disabled persons. Board is ready to give preference to products / manufactures of disabled persons for its official uses whenever such products come to the notice of Board's authority.

THE DETAILS OF SANCTIONED POSTS AND THE NUMBER OF PERSONS WITH DISABILITIES IN VARIOUS POSTS IN GROUP 'A', 'B', AND 'C' AGAINST 3% VACANCIES ARE AS BELOW-

As on 01.04.2016

Sl. No.	Group of posts	Sanctioned Strength	Post reserved for disabled persons	Present position	Remarks.
1	Group 'A'	82	Nil	Nil	There is no direct recruitment post in Group – A.
2	Group 'B'	187	4	Nil	The Total direct recruitment post of Group – B is 139
3	Group 'C'	359	8	7	The Total direct recruitment post of Group – C is 273
	Total	628	12	7	

Establishment – Administration and Finance

The sanctioned and filled positions as on 01.04.2016 in Brahmaputra Board are furnished in the following table –

Sl. No.	Post	Sanctioned Post	Post filled up	Post vacant
1.	Group – A	82	57	25
2.	Group – B	187	155	32
3.	Group- C	359	246	113
Total		628	458	170

Detail status of the above list is shown in the enclosed **Annexure-III**

6.0 PROGRESSIVE USE OF OFFICIAL LANGUAGE HINDI (AS ON 31.03.2016)

1. Hindi Fortnight celebration : With a view to promote the Official Language Hindi in the official activities and to create an congenial atmosphere of Hindi amongst the officers and staff of the Board, Hindi Fortnight was celebrated in the Board HQ, Guwahati from 15th September to 28th September 2015 in the Board's HQ at Guwahati. On the occasion, 5 competitions in Hindi viz,- Noting/Drafting, Computer Typing, Dictation, Street Drama, Essay writing etc were organized and participants were given cash prizes. A total of Rs. 15,300/- cash prizes were given for the events.

2. Hindi Day programme also organized in 12 field offices under the Board on different dates between 15th September to 28th September 2015.

3. Hindi Correspondence: The Board achieved an overall target of progress upto 58.47% during the year in comparison to 58.22% of the last year in originating correspondence in Hindi. Various measures were adopted to increase the progress in a regular way. The Board also suggested all concerned to take all possible follow up actions in this regard.

4. Hindi Workshop: Concerted efforts are being made for successful implementation of the Official language Policy of the Government of India and to create awareness amongst the employees to execute their skill in using Hindi in office work 3(three) Hindi Workshops were organized during the year as mentioned below :

Date	Training Hours	Number of nomination	Number of participated
28.05.2015	6 Hrs.	40	40
23.09.2015	3 Hrs.	19	19
28.12.2015	3 Hrs.	13	13
17.03.2016 (Proposed)	3 Hrs.	20	20
Total	15 Hrs.	92 nos.	92 nos.

5. Town Official Language Implementation Committee's meeting:

The Secretary, Brahmaputra Board attended TOLIC meeting (PSU) held at Guwahati Refinery on 24.07.2015. The Board also organized an official language exhibition on 16.12.2015 at Guwahati Refinery Training Centre.

6. Meeting of the Official language Implementation Committee (OLIC):

Review of the progressive use of official language Hindi in the HQ as well as field offices were made in the OLIC meetings and measures were identified for the effective implementation of Hindi. 3 (three) Sub Committee's meeting were also organized in Nagaon Division, Majuli Division and Rangia Division on 24.07.2015, 27.08.2015 and 28.08.2015.

7. Award/Reward:

Refinery Official Language Citation was given to Brahmaputra Board by the Town Official Language Implementation Committee (PSU) at Guwahati Refinery on 16.12.2015 to the Vice Chairman, Brahmaputra Board for the outstanding implementation of the Brahmaputra Board in the field of official language. In this connection, Hindi officer, Brahmaputra Board was also awarded by a certificate.

8. Hindi Parangat Training:

Brahmaputra Board organized regular Hindi Parangat Training in association with Hindi Teaching Scheme, Government of India, in its HQ at Guwahati. All together 30 officers/staff nominated for training which is going on from 01.01.2016 upto session ending on 30.05.2016.

7. FORMULATION OF CITIZEN'S CHARTER

The Citizen's Charter in respect of Brahmaputra Board has been prepared and uploaded in the official website www.brahmaputraboard.gov.in

Benefit of Schemes/Projects

Sl. No	Name of Project/Schemes	Dist./Taluk Benefited	Total expected Benefited area
1	Harang Drainage Development Scheme	Cachar	11850 Ha
2	Barbhag Drainage Development Scheme	Nalbari	4000 Ha
3	Joysagar Drainage Development Scheme	Nagaon	2410 Ha
4	East of Barpeta Drainage Development Scheme	Barpeta	2852 Ha
5	Singla Drainage Development Scheme	Cachar	97 Sq. Km (9700 Ha)
6	Jengrai Drainage Development Scheme Jakaichuk	Jorhat	14 Sq. Km (1400 Ha)
7	Jakaichuk Drainage Development Scheme	Sivsagar	2308 Ha
8	Kailashahar Drainage Development Scheme	North Tripura	1000 Ha
9	Amjur Drainage Development Scheme	Cachar	72 Sq. Km (7200 Ha)
10	Pagladiya Dam Project	Nalbari	Flood 40,000 Ha Irrigation 54,160 Ha
11	Avulsion of Brahmaputra at Dhola-Hatighuli, Phase-I	Tinsukia	16,200 Ha
12	Avulsion of Brahmaputra at Dhola- Hatighuli, Phase-II	&Dibrugarh	-Do-
13	Avulsion of Brahmaputra at Dhola-Hatighuli, Phase-III	-Do-	-Do-
14	Restoration of River Dibang and River Lohit to its original courses (Old name Avulsion of Brahmaputra at Dhola Hatighuli, Ph-IV)	-Do-	-Do-
15	Protection of Majuli Island from Flood & Erosion, Ph-I	-Do-	6,197 Ha
16	Protection of Majuli Island from Flood & Erosion, Ph-II & III	Jorhat Jorhat	-Do-
17	Protection of Kushiabil and Durgajan village	Dimapur	150 Ha
18	Protection of Nagrijuli, Rangia town and Mukalmuwa/ Barbhag area.	Baksa	35.11 Ha

COMPOSITION OF THE BRAHMAPUTRA BOARD

APPOINTED UNDER CLAUSE (A) & (B) SUB-SECTION (3) OF SECTION (4) OF BRAHMAPUTRA BOARD ACT, 1980 (46 OF 1980)

Full Time Member

1. Chairman
2. Vice-Chairman
3. General Manager
4. Financial Adviser

Part Time Member:

1. Secretary, Water Resources Department, Government of Assam
2. Chief Engineer, PWD (R) Government of Meghalaya
3. Chief Engineer, Irrigation & F. C. Department, Government of Nagaland
4. Chief Engineer, PWD (WR) Government of Tripura
5. Chief Engineer, Irrigation & F.C. Department, Government of Manipur
6. Chief Engineer, (WRD), Government of Arunachal Pradesh
7. Chief Engineer (Civil), Power & Electricity Department, Government of Mizoram
8. Member (RM), Central Water Commission, New Delhi
9. Member (HE), Central Electricity Authority, New Delhi
10. Director General of Meteorology, IMD, New Delhi
11. Commissioner (B&B), Ministry of Water Resources, New Delhi
12. Financial Adviser, Ministry of Water Resources, New Delhi
13. Financial Adviser, NEC, Shillong
14. Chief Engineer, Inland Waterways Authority of India, Noida
15. Joint Secretary (H), Ministry of Power, New Delhi
16. Joint Secretary (NRM), Department of Agriculture & Co-operation, Natural Resource Management Division, MoA, New Delhi
17. Deputy Director General, GSI, North Eastern Region, Shillong

Special Invitee:

1. Adviser, (NE), NITI AYOOG, New Delhi
2. Chief Engineer (B&BBO), Central Water Commission, Shillong
3. Secretary, Irrigation & Waterways Department, Government of West Bengal, Kolkata
4. Secretary, Water Resources & River Development Department, Government of Sikkim, Gangtok
5. Secretary, DoNER, New Delhi

COMPOSITION OF THE HIGH POWERED REVIEW BOARD

**APPOINTED BY THE GOVERNMENT OF INDIA VIDE RESOLUTION NO.2 (17)/ 80-FC/460
DATED 19TH MARCH, 1982 AS AMENDED**

1. Union Minister for Water Resources	Chairman
2. Chief Minister of Assam or a Cabinet Minister duly authorized by him	Member
3. Chief Minister of Manipur or a Cabinet Minister duly authorized by him	Member
4. Chief Minister of Meghalaya or a Cabinet Minister duly authorized by him	Member
5. Chief Minister of Nagaland or a Cabinet Minister duly authorized by him	Member
6. Chief Minister of Tripura or a Cabinet Minister duly authorized by him	Member
7. Chief Minister of Mizoram or a Cabinet Minister duly authorized by him	Member
8. Chief Minister of Arunachal Pradesh or a Cabinet Minister duly authorized by him	Member
9. Union Minister / Minister of State for Finance	Member
10. Minister of State for Water Resources	Member
11. Union Minister / Minister of State for Energy	Member
12. Union Minister / Minister of State for Agriculture	Member
13. Union Minister / Minister of State for Surface Transport	Member
14. Secretary, Ministry of Water Resources, Govt. of India	Member
15. Chairman, Central Water Commission	Member
16. Chairman, Brahmaputra Board	Member-Secretary
17. Member (RM), Central Water Commission	Permanent Invitee

NAME, DESIGNATION AND PHONE NOS OF KEY PERSONNEL OF BRAHMAPUTRA BOARD

Name and address	STD Phone	Fax/e-mail
1. Shri Sanjay Kundu Chairman Brahmaputra Board Basistha, Guwahati-781029	0361- 2301099 (O)	Fax: 0361-2301099 e-mail: bbrd-ghy@nic.in
2. Shri P. Monroi Scott Vice Chairman Brahmaputra Board Basistha, Guwahati-781029	0361- 2308590 (O)	e-mail: bbrd-ghy@nic.in
3. (Presently Vacant) Financial Adviser Brahmaputra Board Basistha, Guwahati-781029		e-mail: bbrd-ghy@nic.in
4. (Presently Vacant) General manager Brahmaputra Board Basistha, Guwahati-781029		
5. (Presently Vacant) Chief Engineer-I Brahmaputra Board Basistha, Guwahati-781029		Fax : 0361-2303580 e-mail: bbrd-ghy@nic.in
6. (Presently Vacant) Chief Engineer-II Brahmaputra Board Basistha, Guwahati-781029		Fax : 0361-2303580 e-mail: bbrd-ghy@nic.in
7. Joy Barman Secretary Brahmaputra Board Basistha, Guwahati-781029	0361-2300128(O)	Fax : 0361-2308588 e-mail: bbrd-ghy@nic.in
8. Dhruva Jyoti Borgohain Superintending Engineer(Planning) Brahmaputra Board Basistha, Guwahati-781029	0361-2302868 (O)	e-mail : bbrd-ghy@nic.in
9. Chan Mohan Das Superintending Engineer(Works) Brahmaputra Board Basistha, Guwahati-781029	0361-2300607(O)	Fax : 0361-2302890 e-mail: bbrd-ghy@nic.in

Names, Designations and other particulars of Public Information Officers

The names, designation and other particulars of Public Information Officers of Brahmaputra Board are given below:

Appellate Authority	
Name: Shri Joy Barman Designation: Secretary, Address : Brahmaputra Board, Basistha, Guwahati-781029, Assam Tel: 0361-2300128(O) Fax : 0361-2308588 Mob: 94355-58703 e-mail: bbrd-ghy@nic.in	
Central Public Information Officer	
Name: Shri Dhruva Jyoti Borgohain Designation: Superintending Engineer(Planning) Address : Brahmaputra Board, Basistha, Guwahati-781029, Assam Tel: 0361-2300128(O) Fax : 0361-2308588 Mob: 94350-47858 e-mail: bbrd-ghy@nic.in	
Central Assistant Public Information Officer	
1	Name : Shri Gaya Prasad Singh Designation : Superintending Engineer Address: Guwahati Circle, Brahmaputra Board, Basistha, Guwahati-29. Tel: 0361-2301320 (O) Mob: 94353-45376
2	Name : Shri Thaneswar Bora Designation : Superintending Engineer Address : Jorhat Circle, Brahmaputra Board, Jorhat, Assam Tel: 0376-2304498(O) Fax: 0376-2304498 Mob: 94357-34045
3	Name : Shri Iltaf Hussain Designation : Superintending Engineer Address : North Guwahati Circle, Brahmaputra Board North Guwahati, Assam Tel: 0361-2914332(O) Fax : 0361-2914332 Mob: 94351-10713

4	Name : Shri Dinesh Chandra Barman Designation : Superintending Engineer, Address : Nalbari Circle, Brahmaputra Board, Nalbari, Assam Tel: 03624-220572(O) Fax : 03624-220572 Mob: 94353-14253
5	Name : Shri Jatin Chandra Mazumdar Designation : Executive Engineer (HQ), Address : Brahmaputra Board, Basistha, Guwahati-781029, Assam Tel: 0361-2308590 (O) Mob: 94350-85885
6	Name : Shri Dinanath Bujarbarua Designation : Executive Engineer, Address : Guwahati Division, Brahmaputra Board Basistha, Guwahati-29, Assam Tel: 0361-2308589 (O) Mob: 94351-00682
7	Name : Shri Deben Sarma Designation : Executive Engineer Address : Majuli Division, Brahmaputra Board, Majuli, Jorhat, Assam Tel: 03775-273698(O) Mob: 94350-47861
8	Name : Shri Dipak saikia Designation : Executive Engineer Address : Roing Division, Brahmaputra Board, Roing, Arunachal Pradesh Tel. No. 03803-222736(O) Mob: 94352-68046
9	Name : Shri Dilip Kumar Goswami Designation : Executive Engineer Address : Lakhimpur Division, Brahmaputra Board, North Lakhimpur Tel: 03752-232307(O) Mob: 94013-74277
10	Name : Shri Nayan Jyoti barman Designation : Executive Engineer Address : Agartala Division, Brahmaputra Board, Agartala, Tripura Tel: 0381-2330306(O) Mob: 87949-23180

11	Name : Shri Atul Sarma Designation : Executive Engineer Address : Nalbari Division, Brahmaputra Board, Nalbari, Assam Tel: 03624-220572(O) Mob: 94355-47022
13	Name : Shri Dinanath Bujarbarua Designation : Executive Engineer Address : Nagaon Division, Brahmaputra Board, Nagaon, Assam Tel: 03672-254923 (O) Mob: 94351-00682
14	Name : Shri Prahlad Chandra Saloi Designation : Executive Engineer Address : North Guwahati Division, Brahmaputra Board, Rudreswar, North Guwahati-78103, Assam Tel: 0361-2680153(O) Mob: 94357-07072
15	Name : Shri Chinmay Jyoti Sarma Designation : Executive Engineer Address : Jalpaiguri Division, Brahmaputra Board, Jalpaiguri, West Bengal Tel: 03561-224645 (O) Mob: 94351-03688
16	Name : Shri Ramesh Panwar Designation : Executive Engineer Address : Barak Valley Division, Brahmaputra Board, Silchar, Assam Tel: 03842-230454 (O) Mob: 94353-01372
17	Name : Shri Chinmay Jyoti Sarma Designation : Executive Engineer Address : Liaison Office, Brahmaputra Board, Opposite NHA1 Building, Sector-10 Dwarka, New Delhi-75 Tel: 011-25088697 (O) Mob: 94351-03688 Fax: 011-25071476 E-mail: bbrdliaison@yahoo.com

Brahmaputra Board at a Glance

Brahmaputra Board

The Brahmaputra Board, an autonomous statutory body was set up under an Act of Parliament called the Brahmaputra Board Act, (Act 46 of 1980) under the Ministry of Irrigation (Now renamed as Ministry of Water Resources). The jurisdiction of the Board includes both the Brahmaputra and Barak Valley and covers all the States of the North Eastern Region, Sikkim and part of West Bengal falling under Brahmaputra basin. The Board consists of 21 Members (4 full time Members and 17 part time Members), representing seven states of the North Eastern Region, North Eastern Council, concerned Ministries - Ministry of Water Resources, Agriculture, Finance, Power & Surface Transport - and Departments of the Government of India - Central Water Commission, Geological Survey of India, India Meteorological Department and the Central Electricity Authority.

Since creation of Ministry of Development of North Eastern Region (DoNER) and inclusion of Sikkim and part of West Bengal within the jurisdiction of Brahmaputra Board, a representative of DoNER, the Secretary, Irrigation & Flood Control Department(I&FCD), Sikkim, the Secretary, Irrigation & Waterways (I&W) Department, West Bengal, the Chief Engineer, Brahmaputra & Barak Basin (B&BB), Central Water Commission, Shillong and Adviser, North East (NE), Planning Commission are invited as Special Invitees in Board meetings.

The Board started functioning with its Headquarters at Guwahati from 11th January 1982. As per sub-section (2) of section (3) of the Brahmaputra Board Rules, 1981, Board has established a Liaison Office at New Delhi.

Objectives

Basic objective for establishment of Brahmaputra Board is Preparation and Implementation of Master Plans, in association with States, for management of flood, bank erosion and drainage congestion and development and utilization of water Resources of the Brahmaputra Valley

a. Brahmaputra and Barak River System

The river Brahmaputra is one of the largest rivers of the world with a specific yield of 85 ha m / sq km, which is next to Amazon (87 ha m /sq km). Brahmaputra is the principal arm of the Ganga-Meghna- Brahmaputra system. It originates from Kanglungkang glacier east of Manas-Sarovar at an elevation of 5150 m and traverses 1625 km in Tibet, 918 km in India (278 km in Arunachal Pradesh and 640 km in Assam) and 363 km in Bangladesh. The Brahmaputra basin extends over an area of 5,80,000 sq km, out of which 2,93,000 sq km is in Tibet, 2,40,000 sq km in India and Bhutan and 47,000 sq km in Bangladesh. During its course in the Assam Valley from Kobo to Dhubri, 26 important tributaries on its north bank and 13 on south bank join the river. Some of the north bank tributaries originate from snow clad Himalayas and others from the lower Himalayas. The total annual flow of the river is about 573 BCM at Jogighopa on Indo-Bangladesh

border, which is 29% of the total surface flow of the country. Average width of the Brahmaputra Valley is 80 km, out of which the river itself occupies about 1.5 km to 25 km.

b. Brahmaputra River

The Brahmaputra River is braided and unstable in its entire reach in the Assam Valley except for a few places. The instability of the river is attributed to high sediment charge, steep slope and transverse gradient. Apart from these, the entire area is in a seismic zone and receives earthquake shocks of moderate to severe intensity from time to time. The problem of siltation has been further aggravated due to landslides caused by high rainfall. Some manmade avoidable actions in the form of shifting cultivation and non-scientific commercial exploitation of forest, etc. have also accelerated the process of soil erosion in the catchments. The silt brought in the process gets deposited as the river descends into the plains with sudden reduction in slope, with the consequent reduction in the flow velocity and its sediment carrying capacity. Due to heavy deposition of silt, the river has frequently changed its course. Excessive silt deposition has also given rise to braiding and meandering pattern in the alignment of the river system. The world's largest river island "Majuli" in upper Assam lies in the river. The left bank tributaries of the river Brahmaputra pass through stable reaches with flat slopes and carry lower sediment load of finer size. By hypsometric analysis of the tributaries, it is seen that the North bank tributaries indicates relatively young stage while the South bank tributaries indicate a mature stage. This has given rise to inherent tendency of river Brahmaputra to shift its course towards south and the river flows by the slide of hills at many places along its bank.

The flood in Brahmaputra Valley is a recurring phenomenon and has been causing large scale damages every year. The reasons for flood can be summarized as below-

- Inadequate capacity of the river channel due to braided nature thereby spilling of floodwater over the banks.
- Drainage congestion at the outfall of tributaries during the high stage of the main river, and
- Excessive silt load in the river due to soil erosion and large scale slides in the hilly catchments.

The main crops grown in the Brahmaputra Valley are paddy, jute, mustard, pulses, wheat and sugarcane. Paddy and jute are mainly grown and harvested during monsoon period. Out of four types of paddy crops viz. the Ahu, Sali, Bao and Boro, which constitute about 92% of the cropped area, the first two namely Ahu and Sali are generally affected by floods. The maximum area affected due to floods in the Brahmaputra Valley (including Barak) during the period 1953-2006 was approximately 4.00 M.ha. The flood damage includes crop damage and the permanent loss of land due to erosion. A number of lives are also lost during each flood.

The flood and river management measures adopted so far in the valley are mostly of short term structural measures such as construction of embankments, permeable and impermeable spur, revetment etc. and are area specific only. The poor maintenance of the flood management structures generally causes unexpected

miseries to the people in case of their failure. The efficacy of these measures especially in the river system of Brahmaputra, which is highly aggrading/ degrading in different reaches, is also debatable. As such, there is a need for constructing storage reservoirs in combination with other structural/ non-structural measures after studying the river behavior using scientific tool.

For management of floods, erosion control and improvement of drainage congestion, the Board has prepared Master Plans for the Brahmaputra main stem and its 39 tributaries and Majuli Island. There is also a need to implement the various recommendations made in the Master Plans of Brahmaputra sub-basin prepared. The regional Task Forces "B" for flood management in N.E. Region has also submitted its report to the Ministry of Water Resources, which should be taken into consideration for early implementation in a time bound manner.

c. Barak River

The river Barak is a part of the Ganga-Brahmaputra Meghna system and is the second largest river of the N.E. Region having eight major tributaries. It originates from a hill east of Mouthana at an elevation of about 2840 m in the southern slopes of Nagaland/Manipur. The Barail, Patkai and Lussai hills bound the sub-basin on its three sides. The total catchment area of the Barak sub-basin up to Indo-Bangladesh border is 41,704 sq km. Out of which 751 sq km lies in Myanmar. The annual flow from Indian catchment is 29,600 m cu m at Badarpurghat. The length of the river from its source up to Bhanga in Cachar district is 532 km after which the Barak bifurcates into two branches known as the Surma and the Kushiara. These two branches enter Bangladesh and again join to form a single river channel and flow up to Bhairab Bazar where it meets with Meghna in Bangladesh.

The river Barak is joined by a number of hill streams on its both banks. The flood occurs frequently in this valley causing extensive damage to lives and properties. In order to manage the problem of flood, erosion and drainage congestion, various measures have been taken from time to time by way of construction of embankments, bank protection and drainage improvement works etc. These measures have provided adequate protection to the people of the valley against low and medium floods. In case of high floods, the embankments are not able to withstand heavy pressure, consequently number of breaches occur which cause devastating flood in the valley. In order to deal with the problems of flood, bank erosion, drainage congestion etc, Board has prepared a Master Plan for the Barak sub-basin and Dhaleswari, one of major tributaries of Barak.

d. Other Rivers

There are 9(nine) important rivers in Tripura. These rivers are causing flood frequently in the State. Based on investigation and data collected from the state Govt. and various other Central Agencies, Brahmaputra Board has prepared Master Plan for 8(eight) rivers and these have been approved by the Central Government. Master Plan for Feni sub-basin is identified for preparation in XII Plan. The Master Plan envisages various structural and non-structural measures to tackle flood erosion drainage congestion problems

High Powered Review Board

A High Powered Review Board to oversee the work of the Brahmaputra Board was constituted with the Union Minister of Water Resources as the Chairman and Chief Ministers of Assam, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland and Tripura and Union Ministers / Ministers of State for Finance, Transport, Power, Agriculture, Central Water Commission as Members. The Chairman, Brahmaputra Board is the Member-Secretary and the Member, River Management (RM), Central Water Commission (CWC) is a permanent invitee. The High Powered Review Board of Brahmaputra Board was constituted by Ministry of Water Resources, Government of India through Resolution No. 2(17)/80/FC/460 dated 19.03.1982 and subsequently amended through Resolution No.23/8/925-ER dated 01.10.1992.

So far, six meetings of High Powered Review Board have been convened. The sixth and last meeting of High Powered Review Board was held at Guwahati on 18th January 2012 under the Chairmanship of Shri Pawan Kumar Bansal, Hon'ble Minister of Water Resources and Parliamentary Affairs, Government of India.

Technical Advisory Committee of Brahmaputra Board (TAC-BB)

A 'Standing Committee of Experts on Majuli Island' under the Chairmanship of Member (River Management), Central Water Commission, New Delhi was constituted by Ministry of Water Resources, Government of India in October 2007 to recommend works to be undertaken and review of progress / execution of works for protection of Majuli Island, Assam from floods and bank erosion of River Brahmaputra. 8 Meetings of committee have so far been convened. The 8th and last Meeting was held in January 2013.

Standing Committee

In pursuance to decision by Brahmaputra Board in its 11th Meeting held on 15th September 1988, a Standing Committee was constituted under the Chairmanship of Vice Chairman, Brahmaputra Board.

Preparation of Master Plans

The Brahmaputra Board had taken up preparation of Master Plans of the main stem of the Brahmaputra and Barak along with 66 major tributaries of Brahmaputra, including Majuli Island River Dhaleswari and rivers of Meghalaya & Manipur and Tripura in three Parts.

Part	River	Number	Status
Part-I	Main stem Brahmaputra River	1	Approved by Government of India
Part-II	Master Plan on Barak River and its tributaries except Dhaleswari	1	Approved by Government of India
Part-III	Master Plan on tributaries of the Brahmaputra and rivers of Tripura including Majuli Island and Dhaleswari	68	<ul style="list-style-type: none"> o Approved by Government of India-47 Master Plans o Approved by Board and submitted to MoWR for Approval of Government of India. Further observation of MoWR are being attended by Board-8 Master Plans o Draft Master Plan completed and under process of submission to MoWR for Approval of Government of India-1 Master Plan o Draft Master Plan are in the process to place in Board for approval- 4 Master Plan o New Master Plan- 8 Sub-basins
Total		70	

All 57 Master Plans identified upto XI Plan has been completed by Brahmaputra Board. Out of above, 49 Master Plans have been approved by Government of India and remaining 8 Master Plans are under processing in Ministry of Water Resources, Government of India.

During the year 2015-16

- A) Draft master Plan of Ganol Sub-basin has been completed in 2015 under process of approval of Br. Board. Draft master plans of Waikhyrwi, Umtrew, Dareng & Bugi has been completed. However, recent observations of Ministry of Water Resources, RD&GR during November 2015 are being incorporated in the above master Plans of Meghalaya also.
- B) 8 Master Plan approved by Board and under process of approval of Government of India are returned to Board for meeting up observation in 2015 and now these are being attended by Brahmaputra Board.

Master plan of Imphal River in Manipur, Feni River in Tripura and 2 Master Plans in the State of Mizoram namely, Tuichang and Kaladain are identified for preparation of Master Plans during XII Plan.

Current Assignment for Preparation of Master Plans:

A meeting was convened under the Chairmanship Dr R C Laloo, Hon'ble Minister of Forest and Environment, Government of Meghalaya on 22nd June 2010 in Shillong to discuss the follow up actions on matter related to Integrated Water Resources Development in the State of Meghalaya. Shri Vincent Pala, Hon'ble Minister of State, Ministry of Water Resources, Government of India was Chief Guest in the meeting. The Hon'ble Minister of State, Ministry of Water Resources, Government of India desired in the meeting for preparation of Master Plans of all Rivers of Meghalaya by Brahmaputra Board. Such a decision was communicated by Ministry of Water Resources to Brahmaputra Board through letter No: 19/2/2010-B&B/3114 dated 28 July 2010. In pursuance to above, a 'Joint Team' under the Chairmanship of Chief Engineer (P&D) (now Chief Engineer-I), Brahmaputra Board was constituted by Ministry of Water Resources through Office Memorandum No: 19/2/2010-B&B/3563-3580 dated 3rd September 2010. The following are rivers of Meghalaya identified for preparation of Master Plans –

1. Waikhyrwi
2. Umtrew
3. Ganol
4. Bugi
5. Dareng
6. Umsohryngkew
7. Umiew
8. Myntdu
9. Lubha
10. Proposal for inclusion of 2 Mastr Plan in Mizoram State (1) Tuichang (2) Kaladain

'Survey & Investigation' and Preparation of Detailed Project Reports

Brahmaputra Board took up 'Survey & Investigation' of 14 of Multipurpose Projects in Brahmaputra and Barak Basin and in the south flowing rivers of Meghalaya.

Detailed Project Reports (DPRs) Completed

Out of above, after 'Survey & Investigation' and Detailed Project Reports (DPRs) in respect of following Projects have already been completed and the Projects are under commissioning by various Agencies –

Sl.No	Project	Implementing Agency/Organization/Government
1	Siang Dam Project (3 dams)	Handed over to NHPC during the year 2000. NHPC informed that Siang Lower was handed over to M/s Joy prakash Associates Ltd. (JAL) on 31.03.2009. Siang Middle to M/s Reliance Energy Ltd. (REL) and for Siang Upper, Government of Arunachal Pradesh allocated to M/s NUPC in February 2009 for preparation of PER. Further details on progress of commissioning of these projects have not been received

2	Subansiri Dam Project (3 dams)	Handed over to NHPC during the year 2000. As stated by NHPC the Lower Subansiri is targeted for completion within the year 2017. Subansiri Middle and Subansiri Upper were handed over to M/s Jindal Power Ltd. on 04.02.2011. Further details on progress of commissioning of these projects have not been received
3	Tipaimukh Dam Project	Handed over to NEEPCO and subsequently handed over to NHPC from NEEPCO
4	Pagladiya Dam Project	The work of Pagladiya Dam Project under execution in Brahmaputra Board is held up due to non-completion of zirat survey
5	Bairabi Dam Project	Handed to Government of Mizoram. The Government of Mizoram allotted the work of execution for Bairabi Dam Project to M/s Sikaria Power Ltd., Kolkata on 10.08.2012. It has been intimated by Government of Mizoram that Bairabi Dam Project will be completed within seven years.

Partially Completed Detailed Project Reports (DPRs)

The following four Water Resources Projects located in Arunachal Pradesh and Meghalaya, under 'Survey & Investigation' in Brahmaputra Board were handed over to the Agency / State Government for complete the balanced Survey & Investigation works and subsequent commissioning.

Sl. No.	Name of Project	Implementing Agency
1.	Debang Dam project	National Hydroelectric Power Corporation
2.	Lohit Dam Project (On completion of 'Survey & Investigation')	Government of Arunachal Pradesh
3.	Kynshi Stage-I Dam project	Government of Meghalaya
4.	Kynshi Stage-II Dam project	Government of Meghalaya

Projects under 'Survey & Investigation' and Formulation of Detailed Project Reports

The following Five Water Resources Projects are presently under 'Survey & Investigation'/preparation of DPR in Brahmaputra Board-

Sl.No.	Name of Project	Location	
1.	Kulsi Multipurpose Project	Assam on border with Meghalaya	Declared as National Project
2.	Noa-Dehing Dam Project	Arunachal Pradesh	
3.	Simsang Dam Project	Meghalaya	
4.	Jiadhoh Dam Project	Assam on border with Arunachal Pradesh	
5.	Killing Dam Project	Assam Meghalaya border	

Kulsi Multipurpose Project

The project site is located about 1.5 Km downstream of Ukium, a border village of Assam and Meghalaya. Brahmaputra Board took up the survey and investigation work of Kulsi M.P. project Hydro Power, Irrigation and flood moderation in the basin in the year 1997. The installed capacity of the project is estimated as 58 M.W. with a gross command area of about 26000 ha. This project has been declared as 'National Project' by Government of India. The DPR of the project has been completed in May, 2014 and submitted to Ministry of Water Resources, River Development and Ganga Rejuvenation for approval.

Noa-Dehing Dam Project

The Project site is located about 4 Km upstream of Miao Town in Changlang District of Arunachal Pradesh. The investigation of this project was started in December, 1996. The installed capacity of the project is estimated at 75 MW (tentative). Field activities under the project have already been completed. This project also declared as 'National Project'. The DPR completed in March, 2014 and submitted to Ministry of Water Resources, River Development and Ganga Rejuvenation for approval.

Simsang Multipurpose project

The project is located on the Simsang River with the dam site at Rongkhandi near Nangwalbibra Township under East Garo hills District of Meghalaya. The survey and investigation work of this project was taken up by Brahmaputra Board in the last part of the year 1997. The installed capacity of this project is estimated at 65 MW (tentative). The target for completion of the DPR of this project is 2014-15.

Present status-

- Topographical survey mostly completed
- Pre-feasibility report prepared
- Geological investigation in progress - 26 bore holes completed in dam area
- Construction material survey completed
- Two alternate layouts of water conductor system have been proposed by the Board and submitted to the CWC for finalization of one of the alternatives for further investigation.

Jiadhal Dam Project

Jiadhal Dam project is located about 5 Km upstream of Jiadhalmukh which is Assam-Arunachal Border area. Investigation of this project was taken up in November, 2002. The installed capacity of the project is estimated at 70 MW (tentative). CWC Design team has been requested for a field visit to finalize the layout and other project parameters of the project. The target for completion of the DPR of this project is 2016-17.

Present status-

- Topographical survey in progress
- Geological investigation in progress
- Construction materials survey in progress
- EIA& EMP studies are in progress
- Two alternate layouts of the project have been proposed by the Board and submitted to the CWC for finalization of one of the alternatives.

Killing Dam Project

The project site is located at Assam-Meghalaya Border area. Brahmaputra Board started Survey & Investigation of this project in November, 2003. The installed capacity of the project is estimated at 85 MW. The target for completion of the DPR of this project is 2015-16.

The investigation and data collection for preparation DPR of Killing Dam project was held up on account of NOC issued in between in favour of NEEPCO by the Government of Assam on 25.07.2013 and by Government of Meghalaya on 26.09.2012 to undertake survey and investigation work and preparation of DPR. The Ministry of Power, Govt. of India requested MoWR, RD&GR to hand over the project to NEEPCO on 28.11.2013. The MoWR, RD&GR decided to complete the remaining works of Killing Dam Project by Brahmaputra Board through D.O. letter dated 3rd August 2015 as it is thought to be appropriate for Brahmaputra Board to finish the remaining works and complete the DPR, which was accepted by Ministry of Power through letter dated 2nd September 2015.

Present status-

The Design team of CWC visited project sites of Killing MP Project on 20th December, 2009 and reviewed the proposed layout. It was suggested by the CWC to carry out optimization studies based on tentative costs at different dam heights for finalization of the project parameters. Accordingly the studies have been carried out and submitted to CWC for vetting. CWC has broadly agreed to the proposal submitted by the Board and suggested some additional studies/investigations. The additional studies/investigations are in progress.

At present, hydrological studies for preparation of DPR are in progress and lay out plan of the project is under finalization.

Implementation of Anti-erosion Measures

Anti-erosion Measures Completed

Brahmaputra Board has successfully completed the following anti-erosion measures in Assam and Nagaland -

- Protection of Nagrijuli, Rangia Town, Mukalmua and Barbhag area from floods and erosion of river Puthimari
- Anti-Erosion measures to protect Kushiabil & Durgajan village at Dimapur of river Dhansiri(S) in Nagaland

On completion above schemes have been handed over to respective States for routine maintenance.

Implementation of Anti-erosion Measures underway

Protection of Majuli from floods and erosion

Majuli is the largest inhabited River Island in the world. It is situated between latitudes 26°45'N and 27°10'N, and longitudes between 93°40'E and 94°35'E. Majuli has been the cultural capital and the cradle of Assamese civilization since the 16th century. Sankardeva, a pioneer of the medieval-age neo-vaishnavite movement, preached a monotheist form of Hinduism called as Vaishnavism and established monasteries and hermitages known as satras. The satras preserve antiques like weapons, utensils, jewellery and other items of cultural significance. The inhabitants of Majuli are mostly tribals - predominantly from the Mishing, Deori and Sonowal Kacharis tribes. Majuli is also famous for pottery.

Majuli Island has constantly been subjected to erosion by the mighty Brahmaputra. Responsibility for undertaking anti-erosion works for protection of Majuli Island was given to Brahmaputra Board in the year 1999. Physical activities on the ground started in the year 2004.

The total area of the land mass of Majuli Main Island was 502.21 sq km in the year 2004. Since the year 2004, with regular implementation of anti-erosion / bank protection measures by Brahmaputra Board, the total area of Majuli Island has increased to 523.88 sq km till the year 2014. Currently, works under Phase-II & III are under execution. Works - such as construction of five spurs, river bank revetments, laying permeable RCC porcupine screens, construction of 'Raised Platforms' in low lying flood vulnerable areas are under execution and targeted to be completed by March 2016.

Financial Implication

Expenditure incurred by Brahmaputra Board on undertaking measures for protection of Majuli Island from floods and erosion since January 2004 under various Phases is detailed below-

Sl. No.	Description	Estimated Cost (Rs. in crore)	Actual Expenditure (Rs. in crore)	Remarks
1	Immediate Measures (Year 2004-2005)	6.22	6.09	Completed
2	Phase- I (Years 2005-2011)	56.07	52.63	Completed
3	Emergent Measures (Year 2008)	4.99	4.75	Completed
4	Phase-II & Phase-III	115.99	115.53 (up-to March, 2016)	92.19% of physical progress has been achieved. The scheme is targeted to be completed by March, 2016.
5	Phase-IV	Rs. 35.00 crore has been approved by MoWR, RD&GR through letter No. 2/3/2012-B (Vol.I)/494-512 dated 28.04.2014 for additional work. DPR for Phase-IV works amounting to Rs. 213.61 crore are under appraisal of CWC.		
Total		183.27	179.00	

Outcome

The following are the major achievements –

- Raising and Strengthening of 96.2 km of Embankment
- Prior implementation of protection measures there has continuously been loss of land of Majuli Island. Since implementation of protection measures by Brahmaputra Board trend of land loss got reversed. Particulars on net gain of land mass in Majuli Island are tabulated below –

Year	Area of Majuli Island (in sq km)	Net Area reclaimed (in sq km)
2004	502.21	-
2008	506.37	4.16
2011	520.26	13.89
2013	522.73	2.47
2014	523.88	1.15
2016	524.29	0.41
Total land mass gained from 2004 to 2016		22.08

Plan Ahead

Ministry of Water Resources, Government of India has constituted a 'Standing Committee of Experts' under the Chairmanship of Member (River Management), Central Water Commission to undertake visits to the work sites, advice / recommend and monitor implementation of protection measures. Based upon recommendations of 8th visit of 'Standing Committee of Experts', Brahmaputra Board has formulated a scheme – **Protection of Majuli Island from Floods and Erosion-Phase-IV** – at the estimated cost of Rs. 213.61 crore for implementation during the 12th Five Year Plan. The scheme is under 'Techno-Economic' appraisal in Central Water Commission.

Avulsion of Brahmaputra at Dhola-Hatighuli (Restoration of Dibang and Lohit Rivers)

Avulsion of left bank of River Lohit occurred, at confluence of Lohit with Dibang - near Dhola-Hatighuli located in Dumdooma, Civil Sub-division of Tinsukia district - in the year 1989, due to breach in Saikhowa Bund. Gradual widening of the channel with time was threatening existence of more areas of Tinsukia and Dibrugarh Districts of Assam, situated all along the newly developed channel. Initially significant combined flow of Dibang and Lohit rivers started to flow through Ananta Nala to Dangari – a tributary of river Dibru. Since the year 2000 the Balu Nala became dominant and almost entire diverted flow of Lohit and Dibang Rivers started passing through Balu Nala. Gradual widening of the channel with time was threatening existence of more areas of Tinsukia and Dibrugarh Districts of Assam, situated all along the newly developed channel.

The scheme "Avulsion of Brahmaputra at Dhola-Hatighuli (Measures for diversion of River Dibang to its original course) with ancillary anti-erosion measures" prepared by Government of Assam was approved by Ministry of Water Resources, Government of India in the Technical Advisory Committee (TAC) meeting held in May, 2002 and the Brahmaputra Board was entrusted with the responsibility for execution of the scheme. Total expenditure of Rs 74.48 crore has so far been incurred by Brahmaputra Board on execution of works envisaged under Phase-I, Phase-II, Phase-III and Phase-IV.

With construction of 'Tie-Bund', the lands earlier used to form part of main channel of Dibang River are now completely protected from floods and erosion. The inhabitants of deserted areas have returned back and restarted cultivation in a big way.

11 villages under Doomduma Revenue Circle in an area of about 1500 ha got protection from floods, since the year 2004 onwards, on construction of retirement bund at Hatighuli area on Left bank of Lohit river.

Sl. No.	Description	Estimated Cost (Rs.in crore)	Actual Expenditure (Rs. in crore)	Remarks
1	Phase-I (January 2003 to July 2004)	10.47	10.47	Completed
2	Phase- II (January 2004 to July 2004)	5.22	4.16	Completed
3	Phase-III (March 2007 to July 2007)	8.47	8.47	Completed
4	Phase-IV (December 2013)	54.43	55.81 (upto March 2016)	100% works Completed
	Total	78.59	78.91	

OTHER SCHEMES

- 1 **Protection of Balat Village in Meghalaya on River Umngi.** Part –I of scheme amounting Rs. 5.63 crore are taken up for implementation and completed in January 2016. Physical 83.14% and Financial achievement upto March 2016 is Rs. 4.81 crore.
- 2 **Anti-erosion works for protection of Mankachar, Kalairalga international border area from erosion of river Brahmaputra Assam-**

The Mankachar, Kalair Alga International Border area is located on the south bank of river Brahmaputra in Dhubri District on the westernmost border of Assam. The south bank of River Brahmaputra subjected to severe erosion at up-stream of Sishumara Border Out Post (BOP) of Border Security Force (BSF) adjacent to Indo-Bangla border since 2004-05. On the request of BSF, Assam Public Works Department (APWD) constructed 4 spurs with length of 385m, 245m, 110m and 100m between the Sishumara BOP and Kukradanga in a stretch of 2 km in 2006. Due to erosion in subsequent years major portions of these spurs got eroded. APWD took up repair works of the damaged portions of the spurs in 2009-10. Also, CPWD had taken some measures for protecting the IBB Link Road.

The MoWR, RD&GR entrusted Brahmaputra Board to take up protection measures in the area. Accordingly, Brahmaputra Board prepared DPR for protection of the area and the scheme had been Techno-economically cleared by CWC for an amount of Rs. 23.79 crore. The scheme was included for execution in the EFC for the 'River basin Management' scheme during XII Five Year Plan. Administrative Approval and expenditure sanction was received for Rs. 23.79 crore in July 11, 2014. Brahmaputra Board has initiated the execution of work in 2015.

In the meanwhile, the erosion of Brahmaputra washed away 470m length of the Indo Bangla Border (IBB) Link road in July 2015, thereby hampering activities of BSF in the area. This breach need to be plugged and Board has taken up the work of construction of retirement bund for plugging the breach in 2016.

The Technical Advisory Committee - Brahmaputra Board (TAC-BB) during their site visit on 11.02.2016 has suggested realignment of the retirement bund. Accordingly work has been taken up by Board.

The overall expenditure on the Scheme is Rs. 2.15 Crore up to March, 2016 with physical progress of 80 %.

- 3 **An anti-erosion measure in Maslabari in Assam near International Border-**tender for implementation of the scheme is under progress.

Anti-erosion Schemes Planned to be executed during XII Five Year Plan

The following Anti-erosion Schemes are planned to be executed during the XII Five Year Plan –

- Protection of Majuli Island from floods and erosion Phase –IV
- Restoration of original channels of Dibang and Lohit Rivers at Dhola-Hatighuli Phase-V
- Anti-erosion measures in Bhajaner Charra, Cooch Behar, West Bengal
- Bank Protection work in Bhogdebri area, Cooch Behar, West Bengal

Drainage Development Schemes (DDS)

Brahmaputra Board identified based upon studies carried out under 49 approved Master Plans. During 2015-16 the DPR of Pota-Kolong, Nelli & Kolamonijan are completed and submitted to MoWR. The Techno-economic clearance of DPR for Pota-kolong has been received. The revised DPR of Demow is submitted to MoWR.

Completed Drainage Development Schemes

Harang Drainage Development Scheme

The scheme located in Barak Valley on the border of Bangladesh near Badarpur with estimated cost of Rs. 30.49 crore. Total expenditure Rs. 30.22 crore – The scheme has been completed physically in all respects during March, 2011. The scheme has already been handed over to Water Resources Department, Government of Assam.

East of Barpeta Drainage Development Scheme

The original estimate of the project was for Rs. 1.34 crore and it was revised to Rs. 2.96 crore. The scheme was taken up for execution in March, 2009 and completed in June, 2011. Expenditure incurred against this scheme is Rs. 2.70 crore upto March, 2012. The scheme has already been handed over to Water Resources Department, Government of Assam.

Under Execution Drainage Development Schemes

Jakaichuk Drainage Development Scheme

The scheme is under execution in Brahmaputra Board since 2008. An amount of Rs. 1.35 crore till March, 2012 has been spent against the estimated cost of Rs. 2.96 crore with physical progress of 45% and further progress of work is held up since November 2010 due to objection of the local inhabitants on non-existence of an overflow section in the sluice. The work has been resumed in 2013 and progress upto March 201 is 93% with Rs. 2.31 crore of financial implication.

Borbhag Drainage Development Scheme

Brahmaputra Board took up the execution of Borbhag Drainage Development Scheme during the year 2006. The scheme was subsequently revised to ` 11.70 crore in the year 2010. Two components of the work - (1) Raising and strengthening of embankment and (2) Re-sectioning of channel - have already been completed in March 2012. The DPR has been revised to Rs. 14.80 crore incorporating revised designed of Sluice. The work of remaining part of the scheme construction of the Sluice is in progress and 13.50% progress achieved upto March 2016 with an expenditure of Rs. 8.04 crore.

Amjur Drainage Development Scheme

Techno-economic clearance of the scheme for an amount of Rs. 14.15 crore was received in January, 2006. The execution of Amjur DDS was taken up in the year 2006-07. Out of the two components (i.e. sluice regulator and embankment), the work for 'Raising and Strengthening' of existing embankment was taken up first. The design of Sluice was entrusted to CWC and the revised estimate as per approved design of CWC for Rs. 56.37 crore is under appraisal of CWC. Physical progress of the scheme 33.5% progress has been achieved with an expenditure of Rs. 15.48 crore.

Jengrai Drainage Development Scheme

Techno-economic clearance of Jengrai DDS for an amount of Rs. 1.49 crore was received in the year 2006. The scheme is presently under execution. Further progress of work was held up since March 2008. Revised estimate amounting to Rs. 4.29 crore was submitted to CWC in March 2010, based on detailed design of the sluice. The revised at DPR for Rs. 5.23 Crore has been cleared by CWC. The work order for construction of sluice has been issued and the work is in progress. The physical progress of work under Jengrai DDS is 27% at the total expenditure incurred upto March, 2016 Rs. 1.04 crore. The work is targeted to be completed in March 2018.

Demow Drainage Development Scheme

On receipt of Techno-economic clearance from CWC, the DPR of Demow Drainage Development Scheme was submitted to Government of Assam for implementation. However, Government of Assam requested to take up the execution of the scheme by Brahmaputra Board. The details design and construction drawing of the sluice regulator has been done by Brahmaputra Board and the cost estimate of the scheme has been updated for Rs. 2223.15 lakh which is presently under examination of CWC.

Pagladiya Dam Project

This project meant for flood moderation to benefit an area of 40000 ha, irrigation to 54,160 ha and incidental power generation of 3 MW, is proposed across Pagladiya River at Thalkuchi in Baksa District which falls under Bodoland Territorial Autonomous Districts (BTAD) in Assam. The project envisages construction of 25 m high and 21 km long earth dam with a concrete spillway. The Government of India had sanctioned the project in January, 2001 at an estimated cost of Rs. 542.90 crore for construction by Brahmaputra Board.

- Works carried out since 2001
- Pre-construction survey, investigations, studies, design, drawings etc.
- Taking possession of land (956 ha) for Resettlement & Rehabilitation (R&R) purpose
- Construction of project roads, offices, etc.
- Preparation of technical specifications & tender document
- Pre-qualification of contractors for main works

Out of 3238 ha of land required for execution of Pagladiya Dam Project, 956 ha of land acquired by Government of Assam was made available to Brahmaputra Board. Due to inability of Government of Assam to acquire the balance 2282 ha of land for R&R purpose, the work was held up and as per decision of 53rd Meeting of Brahmaputra Board; all activities are closed 31st May 2013. The Government of Assam has been requested to take over and make necessary arrangement for protection of 956 ha of land from unauthorized occupation. 26 personnel engaged for watch and ward of 956 ha of land has been disengaged from 1st June 2013.

Construction of Raised Platforms

18 raised platforms have been completed by Brahmaputra Board. One raised platform at Barbalarcher in Dhubri District in Assam and another raised Platform in Ratanpur Miri in Jorhat District, Assam completed March 2015.

North Eastern Hydraulic and Allied Research Institute (NEHARI)

North Eastern Hydraulic and Allied Research Institute (NEHARI) was established in the year 1996 under Brahmaputra Board, as a follow up of historic 'Assam Accord' inked on the auspicious day – 15th August (Independence Day of India) – in the year 1985 in presence of then, Hon'ble Prime Minister of India Late Rajiv Gandhi. The Institute is situated in sprawling campus of 44 ha at Rudreswar in North Guwahati at a distance

of 25 km from the main city, far from the madding crowd of the city, on the hillock in a conducive ambient. The Institute was set up as pioneer laboratory of North Eastern Region for laboratory testing of soil, rock, concrete and construction materials for development of water resources and other projects. The Institute has adequate facility for simulating / understanding river behavior through physical models.

Mandate

Undertaking field and laboratory investigations, research and development work of basic and applied types in 'Geo-mechanics', 'Concrete Technology', 'Soil Characteristics', 'Construction Materials' and associated issues for development of Hydropower, Irrigation and Flood Control Projects.

Activities

- Hydraulic Physical Model Testing for Erosion problem study & River training
- Soil mechanics
- Rock mechanics
- Concrete technology
- Construction material testing
- Geophysical investigations at site
- Sediment/Silt analysis

NEHARI has patronage of Central Soil and Material Research station (CSMRS), New Delhi and Central Water and Power Research Station (CWPRS), Pune – Internationally reorganized as apex Institutes in the field of laboratory testing of soil and construction materials and development of physical and mathematical models in the field of development of water resources. Experts/technical hands of NEHARI have initially been imparted training on the subject by both the above mentioned premier Institutes. During a short span of time, since its inception, NEHARI has successfully completed laboratory testing of soil and materials during investigation and also during execution of a number of projects in the water resources development.

Noteworthy among them are Lower Subansiri Hydro-electric Project, Middle Subansiri Hydro-electric Project, Lower Siang Project, Middle Siang Project, Dibang Dam Project, Laskar Mintu Project of Meghalaya, Tuirini, Tuipal and Kolodyne H.E. Project of Mizoram, Dikhu Hydel Project of Nagaland and others. Test reports prepared by NEHARI have been appreciated by CSMRS.

Appraisal and Monitoring of Schemes under Flood Management Programme of Government of India

The Brahmaputra Board is entrusted with monitoring of scheme under Flood Management Programme in respect of entire North Eastern Region including Sikkim and part of West Bengal falling under Brahmaputra Basin since X Plan. Details of scheme undertaken by Government of India under Flood Management Programme and monitored by Brahmaputra Board is shown below –

○ **During X Plan**

Sl. No.	Name of State	Nos of schemes	Central Grant released (Rs. in crore)
1	Assam	44	78.8182
2	Arunachal Pradesh	7	16.3755
3	Manipur	4	7.911
4	Mizoram	3	6.1980
5	Tripura	7	12.7635
6	Meghalaya	2	2.635
7	Nagaland	1	3.897
8	Sikkim	3	8.595
9	West Bengal	3	9.01
	Total	74	146.2032

○ **During XI Plan**

Sl. No.	Name of State	Nos of schemes	Central Grant released (Rs. in crore)
1	Assam	100	744.9
2	Arunachal Pradesh	21	78.77
3	Manipur	22	65.03
4	Mizoram	2	3.4
5	Tripura	11	20.91
6	Meghalaya	0	0
7	Nagaland	11	28.96
8	Sikkim	28	82.86
9	West Bengal	6	13.39
	Total	201	1038.22

Initially appraisal of schemes under Flood Management Programme of Government of India was with Central Water Commission and monitoring of progress of such schemes was with Brahmaputra Board.

Subsequently, it was decided that appraisal as well as monitoring of Flood Management Programme schemes of North Eastern Region may be assigned to Brahmaputra Board. In pursuance to decision contained in letter No: 5/6/2011-RMCD/660-92 dated 1st February 2012, Brahmaputra Board undertook appraisal of schemes under Flood Management Programme. During joint visits of officials of Brahmaputra Board and Water Resources Departments, scopes of some of the schemes were changed and some proposals were even considered unnecessary after visit of project sites and thus dropped.

Subsequently, the appraisal of schemes under Flood Management Programme of Government of India was entrusted back to Brahmaputra and Barak Organization,

Central Water Commission, Shillong through letter No: 5/6/2012-RMCD/4756-4824 dated 30.11.2012 by Central Water Commission.

Status on appraisal of schemes under Flood Management Programme initiated by Brahmaputra Board during the brief period February 2012 to July 2013 is tabulated below –

Sl. No.	Name of State	No. of schemes received	Appraised by Brahmaputra Board	Returned to State Government	Submitted to Regional office of CWC
1	Assam	87	60	4	23
2	Arunachal Pradesh	2	0	2	0
3	Manipur	0	-	-	-
4	Mizoram	0	-	-	-
5	Tripura	0	-	-	-
6	Meghalaya	6	0	1	5
7	Nagaland	1	0	1	-
8	Sikkim	44	27	17	0
9	West Bengal	11	5	5	1

Total - 151

Review of the Brahmaputra Board Act 1980

The Brahmaputra Board Act 1980 established a Board to tackle the flood and drainage problems of NE India. The need for restructuring and strengthening of the Brahmaputra Board has been long felt to enable it to function more effectively for meeting the additional challenges. Members of Parliament, State Governments of North Eastern Region and Standing Committee of Parliament on Water Resources at strongly expressed their demand for revamping of the Brahmaputra Board. A Task Force under the Chairmanship of Chairman, Central Water Commission was set up by the Ministry of Water Resources in August 2004, to suggest short term and long term measures for Management of floods and erosion control, had also inter-alia recommended the restructuring, strengthening and empowerment of the Board. Ministry of Water Resources constituted a Nodal Group in August 2011 under the Chairmanship of the Chairman, Central Water Commission with a mandate to recommend the manner in which Brahmaputra Board may be revamped into a

complete basin organization incorporating within itself the current function of Central Water Commission in the North East region. The Nodal Group suggested the working structure for the strengthened organization. This proposed restructuring of the Brahmaputra Board therefore draws upon the wisdom that has accumulated during the last 31 years of its operation.

Establishment of the Authority

The mandate of the proposed Brahmaputra River Valley Authority shall be the co-ordinate development and management of water, land and related sources in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of the vital ecosystem of the Brahmaputra Valley. The proposed Authority will have two parts, a policy making apex council and an executive wing. The Council shall be headed by Union Minister of Water Resources of the NE States, subject matter experts and other senior representative of the State and Central Government. One of the Chief Ministers shall be Vice-Chairman of the council on rotational basis in alphabetical order. The Executive Board will be responsible for implementing the decision of the council. The Authority shall be a body corporate by the name aforesaid having perpetual succession with powers to acquire, hold and dispose of property, both movable and immovable, and to contract and shall by the said name sue and be sued. The working relationship shall be modeled like.

The sphere of the work of the new Authority briefly as follows –

- Integrated Multi-disciplinary basin Planning ensuring their implementation by member states
- Investigation, Planning & Design, appraisal, clearance, monitoring and implementation of works in consultation with states
- Promotion of sustainable water resources management
- Integrated flood management, flood forecasting
- Hydro-power development to the extent provided for national interest

Plan Proposal for XII Five Year Plan

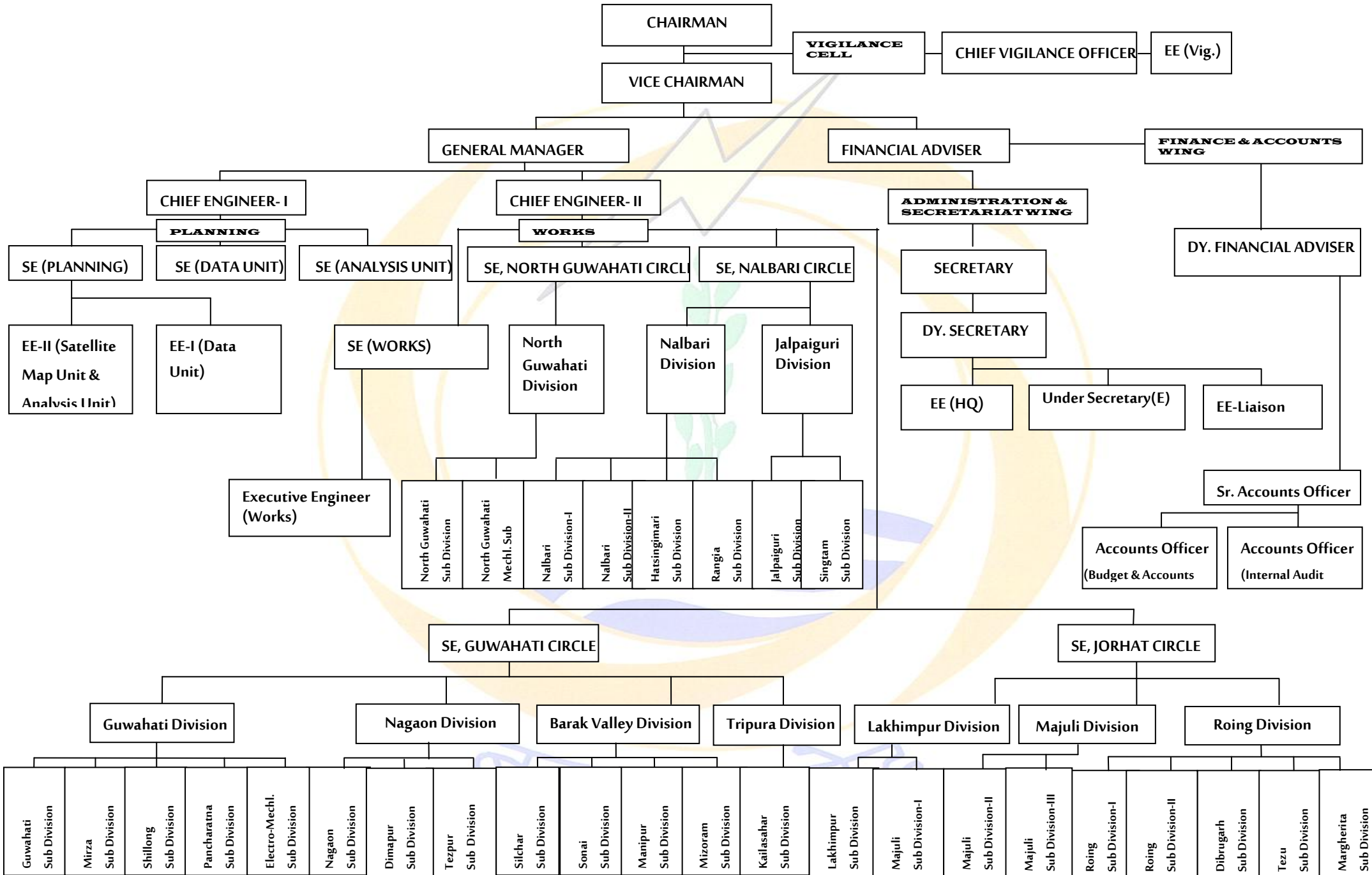
The following new Anti-Erosion schemes including in **Plan Proposal of Brahmaputra Board for implementation during the XII Five Year Plan –**

Sl. No.	Description	Estimated Cost (Rs. in crore)	Remarks
1	Protection of Majuli Island from flood and erosion Phase -IV	200.13	The proposal formulated based upon recommendation of 8 th visit of Standing Committee of Experts is under appraisal in Central Water Commission.
2	'Conversion of the existing tie bund across the spill channel of river Dibang from chainage 480.00 m to chainage 2550.00 m in to a full-fledged embankment at Bahbari'	9.22	

	'Conversion of the existing tie bund across the spill channel of river Dibang from chainage 480.00 m to chainage 2550.00 m in to a full fledged embankment at Bahbari'	381.18	
	'Restoration of original channels of Dibang and Lohit Rivers at Dhola-Hatighuli' Phase-V		
3	Protection of Balat Village in Meghalaya on River Umngi	10.18	TAC accorded for Rs. 10.18 crore. AA accorded for Rs. 5.62 crore for Phase-I, Physical progress of work upto October 2015 is 47.37%. Administrative approval and expenditure sanction for the scheme A/E works for protection of Mankachar Kalair-alga has been received from awaited from remaining works.
4	Anti-erosion works for protection of Mankachar, Kalairalga international border area from erosion of river Brahmaputra Assam	23.79	
5	Anti-erosion measures in Maslabari in Assam near International Border	5.76	
6	Anti-erosion measures in Bhajaner Charra, Cooch Behar, West Bengal	4.43	
7	Bank Protection work in Bhogdebri area, Cooch Behar, West Bengal	5.39	



ORGANISATION CHART OF BRAHMAPUTRA BOARD





Statement of Regular Sanctioned Strength and Number in Position of Officers /Staff and Field Staff along with the Position of SC / ST / OBC and PH as on 01.04.2016

Sl. No	Name of Office	Group A All posts in PB-4 and PB-3 5400 - 10000						Group - B All posts in PB-2 4200 - 4800						Group C All posts in PB-1 1800 - 2800						Total (A+B+C)	
		Sanctioned strength	No. In position	SC	ST	OBC	PH	Sanctioned strength	No. In position	SC	ST	OBC	PH	Sanctioned strength	No. In position	SC	ST	OBC	PH	Sanctioned strength	No. In position
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1	Board's Headquarters office including Liaison unit	10	9	0	0	1	0	22	17	2	1	1	0	58	39	5	3	7	3	90	65
2	Finance Wing	4	3	0	0	0	0	5	3	0	0	0	0	21	17	5	1	2	0	30	23
3	CE-I Office	15	9	0	0	1	0	15	22	3	0	2	0	23	18	2	1	1	0	53	49
4	CE-II Office	7	4	0	0	6	0	10	5	2	1	5	0	14	12	2	0	3	0	31	21
5	SE (Field) Offices	6	4	1	0	1	0	6	7	0	0	0	0	34	21	5	1	4	0	46	32
6	EE (Field) Offices	40	28	1	0	3	0	129	101	3	2	6	0	209	139	16	6	29	4	378	268
	TOTAL	82	57	2	0	12	0	187	155	10	4	14	0	359	246	35	12	46	7	628	458