

**Government of India
Central Water Commission
Project Appraisal Organization**

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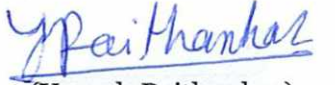
Dated: 15.12.2023

Minutes of Meeting

A copy of the Summary Record of discussions of the 154th Meeting of the Advisory Committee of DoWR, RD & GR on Irrigation, Flood Control & Multipurpose Projects held under the Chairpersonship of Secretary, Department of Water Resources, River Development & Ganga Rejuvenation on 08.12.2023 through hybrid mode is enclosed herewith for information and further necessary action, please.

It is requested that comments, if any, on the enclosed Summary Record of Discussions, may kindly be forwarded to this office within 15 days.

Encl: As above.


(Yogesh Paithankar)

**Member Secretary of the Advisory Committee &
Chief Engineer (PAO)**

To,

Members of Committee:

1. Chairman, CWC, Sewa Bhawan, R. K. Puram, New Delhi.
2. Secretary (Expenditure), Ministry of Finance, 1st Floor, North Block, New Delhi.
3. Secretary, Department of Power, Room No. 205, S.S. Bhawan, II Floor, New Delhi.
4. Secretary, Ministry of Environment & Forests & CC, 4th Floor, Prithvi Block, Indira Paryavaran, Jor Bagh, New Delhi.
5. Secretary, Department of Agriculture, Cooperation & Farmers Welfare, R. No. 126, Krishi Bhawan, New Delhi.
6. Secretary, Ministry of Tribal Affairs, Room No. 738, A-Wing, Shastri Bhawan, New Delhi.
7. Director General, ICAR, Room No-108, Krishi Bhawan, New Delhi.
8. Chairman, CEA, Sewa Bhawan, R. K. Puram, New Delhi.
9. Chairman, Central Ground Water Board, Jam Nagar House, New Delhi.
10. Adviser (Power), NITI Aayog, Room No. 248, Yojana Bhawan, New Delhi.
11. Adviser (WR&LR), NITI Aayog, Room No. 230, Yojana Bhawan, New Delhi.
12. Joint Secretary & Financial Adviser, DoWR, RD & GR, Room No-401, Shram Shakti Bhawan, New Delhi.

Invitees from the State Government:

1. Additional Chief Secretary, Water Resources Department, Government of Assam, Chandmari, Guwahati.
2. Chief Engineer, Water Resources Department, Government of Assam, Guwahati.

Special Invitees:

1. Member (WP&P), CWC, New Delhi.
2. Member (RM), CWC, New Delhi.
3. Chief Advisor (Cost), Department of Expenditure, Lok Nayak Bhawan, New Delhi.
4. Commissioner (SPR), DoWR, RD & GR, New Delhi.
5. Commissioner (FM), DoWR, RD & GR, New Delhi.
6. Chief Engineer (FMO), CWC, New Delhi.

Copy for kind information to:

1. Sr. PPS to Secretary, DoWR, RD & GR, Room No. 407, Shram Shakti Bhawan, New Delhi.



Government of India
Ministry of Jal Shakti
Department of Water Resources, River Development & Ganga
Rejuvenation
Central Water Commission
Project Appraisal Organization

**ADVISORY COMMITTEE FOR CONSIDERATION OF TECHNO-ECONOMIC
VIABILITY OF MAJOR & MEDIUM IRRIGATION, FLOOD CONTROL AND
MULTIPURPOSE PROJECT PROPOSALS**

154th MEETING HELD ON 08th December 2023

SUMMARY RECORD OF DISCUSSIONS

The 154th meeting of the Advisory Committee of Department of Water Resources, River Development & Ganga Rejuvenation (DoWR, RD & GR), Ministry of Jal Shakti (MoJS), for consideration of techno-economic viability of Major & Medium Irrigation, Flood control and Multipurpose project proposals (Advisory Committee), was held under the chairpersonship of **Ms. Debashree Mukherjee**, Secretary to the Government of India, DoWR, RD & GR, MoJS on Friday, 08th December, 2023. The list of participants is **Annexed**.

At the outset, the Chairperson welcomed the participants and thereafter, requested Member-Secretary to take up the agenda items.

Brief records of the discussion & decisions taken in the meeting are given below:

I. Confirmation of the Minutes of the 153rd Meeting of the Advisory Committee :

The 153rd meeting of the Advisory Committee was held on 14.11.2023. Member Secretary informed that the Summary Record of Discussions of 153rd Meeting was circulated vide CWC Letter dated 24.11.2023 and no comments have been received so far. The committee confirmed the Minutes of 153rd meeting of the Advisory Committee.

II. Project Proposal Considered by the Advisory Committee :

Member Secretary informed that during the last meeting, 4 (four) flood schemes of Govt of Assam were differed with the decision that *"project authorities will revise all the 4 DPRs incorporating provision for land acquisition and be resubmitted which may be taken up in the next meeting exclusively for these 4 Schemes."*

Accordingly, the cost of land acquisition has been incorporated in the cost estimates and these 4 flood schemes are to be discussed during the meeting as per the Agenda.



A combined presentation of the Schemes was made by the project authority informing that these Schemes of Assam are proposed to be funded by Asian Development Bank (ADB) and envisages the following:

1. Zone A: *Climate Resilient Brahmaputra Integrated Flood and Riverbank Erosion Risk Management Project - Dibrugarh and Tinsukia Sub Project (Zone-A), Govt. of Assam (Estimated Cost Rs. 778.7849 Cr at March 2023 PL, BC Ratio. 1.32, Bank Revetment in 25.67 km reach)*

Construction of earthen embankment on left bank of the river and bank revetment with launching apron on left bank as per relevant code provisions along with pro-siltation measures in the form of PSC Porcupines and adaptive/recoupment works. The scheme envisages benefitting 3,00,000 population and protecting 63,500 Ha area.

2. Zone B: *Climate Resilient Brahmaputra Integrated Flood and Riverbank Erosion Risk Management Project- Morigaon, Nagaon, Tezpur Sub Project (Zone-B), Govt. of Assam (Estimated Cost Rs. 676.5080 Cr at March 2023 PL, BC Ratio. 1.86, Bank Revetment in 37.85 km reach)*

Construction of earthen embankment along with construction of sluice gate on the right bank (north bank) of the river and bank revetment with launching apron on both banks as per relevant code provisions along with pro-siltation measures in the form of PSC Porcupines and raising & strengthening works. The scheme envisages benefitting 2,60,000 population and protecting 46,876.25 Ha area.

3. Zone C: *Climate Resilient Brahmaputra Integrated Flood and Riverbank Erosion Risk Management Project- Guwahati West, P.G.P sub project (Zone-C), Govt. of Assam (Estimated Cost Rs. 269.5371 Cr at March 2023 PL, BC Ratio. 1.32, Bank Revetment in 11.54 km reach)*

Construction of bank revetment with launching apron as per relevant code provisions along with pro-siltation measures in the form of PSC Porcupines and adaptive/recoupment works. The scheme envisages benefitting 5,00,000 population and protecting 75,558.4 Ha area.

4. Zone D: *Climate Resilient Brahmaputra Integrated Flood and Riverbank Erosion Risk Management Project- Goalpara and Dhubri sub project (Zone-D), Govt. of Assam (Estimated Cost Rs. 542.498 Cr at March 2023 PL, BC Ratio. 1.17, Bank Revetment in 26.95 km reach)*

Construction of earthen embankment along with construction of sluice gate on left bank (south bank) of the river and bank revetment with launching apron on south bank as per relevant code provisions along with pro-siltation measures in the form of PSC Porcupines. The scheme envisages benefitting 4, 50,000 population and protecting 24,920 Ha area.



After deliberations, Secretary (DoWR, RD & GR) requested the project authorities to elaborate on the non-structural measures being considered in these Schemes.

In reply, Representative of Govt of Assam explained that following non-structural measures (soft component) under the ADB aided Climate Resilient Brahmaputra Integrated Flood and Riverbank Erosion Risk Management Project (CRBIFRERMP) are being planned for these schemes:

- i) **Nature Based solutions** will be carried out with the support of Assam Agroforestry Development Board (AADB) which includes strengthening the stability of embankment by using long rooted vegetation.
- ii) **Design Guidelines** - existing guidelines and standards for flood and riverbank protection structures will be reviewed and modified to incorporate the latest understanding of hydraulic and geotechnical phenomena related to riverine processes and will include future climate predictions to ensure all designs are climate resilient. A separate Design Unit will be developed.
- iii) **Erosion prediction model** - The framework developed earlier will be reviewed and developed for the Brahmaputra Main Stem to combine the results with inundation maps as a planning tool for the districts and potential emergency works as well as future State Government investments.
- iv) **Embankment breach model** - An embankment breach model will be developed and pilot-tested and subsequently appropriate refinements will be applied in the four reaches of the four subprojects.
- v) **Asset management system** - A suitable asset management system will be selected for implementation in the four selected subproject reaches. The system will include both types of assets (embankment and riverbank protection) and key features like GPS coordinates, lengths, year of construction etc. will be incorporated into the system.
- vi) **Livelihood improvements for people vulnerable to flooding and riverbank erosion** - The project will include support to most vulnerable groups whose livelihoods are affected by flooding and riverbank erosion.
- vii) **Intensified agriculture in protected areas** - Under the project a study will be undertaken on intensified agriculture in areas protected against riverbank erosion and floods. This study will focus on modern irrigation technologies such as buried pipe systems with SCADA systems and possibly pre-paid meters with particular emphasis on increasing dry season cropping intensity in areas reliably protected by flood embankments and riverbank protection works.
- viii) **Capacity Building** - Through specific training activities, the project will enhance capacity of FREMAA and WRD on integrated flood and riverbank erosion risk management planning, tools and decision-making.
- ix) **Surveys and river monitoring** - The project will establish baseline information through systematic surveys of all river channels during successive flood seasons in each reach where the four subprojects are located and high-resolution topographic surveys providing the baseline DEM for accurate flood hazard and flood risk assessments.
- x) **Flood forecasting and early warning** - Flood forecasting model will be developed and operationalized in selected major tributaries/sub-basins and main stem of the Brahmaputra under this project.
- xi) **Flood mapping** - This nonstructural measure will focus on generating high-resolution topographic data and digital elevation models (DEM) in the Project areas. In urban areas, flood risk assessments will be piloted to demonstrate the potential economic losses and enable informed-decisions on economically feasible mitigation measures. In all cases, climatic change scenarios will be incorporated to assess future efforts for climate adaptation measures.

Representative of Niti Aayog asked the project authorities to look into nature based Schemes being implemented by the Govt of Punjab in wetland such as Kanjli. She also emphasized that measures to deal with extreme conditions due to climate change may be seriously considered at the planning stage itself. She also advised the project authorities to use materials like Geosynthetic and Geotextile for slope stabilization purpose. She also emphasized that while carrying out flood mapping under non-structural measure, existing flood zone mapping may also be considered to save the vulnerable areas and endangered species

Advisor (Cost), DoE, MoF asked the project authorities whether timelines have been fixed, as delayed timeline will increase the project cost and eventually impact the B C ratio.

In reply, ACS, Govt of Assam assured the Committee that all the statutory approvals are at place and major land belongs to the State Govt Departments and work will be completed in 2-3 seasons. He also assured that Govt of Assam will consult other States including Punjab and Kerala for adopting latest innovations and good practices developed in their states.

Member, RM, CWC stated that a pilot scheme in Majuli island in Brahmaputra river using bio-engineering measures for flood and erosion management is being implemented by Brahmaputra Board in collaboration with IIT Guwahati. He added that coir products from Kerala are also being used for the purpose. He stated that, in addition to Assam Agroforestry Development Board (AADB), technical assistance for nature-based solutions can also be sought by Govt of Assam from the Rain Forest Research Institute at Jorhat, Assam.

Secretary (DoWR, RD & GR) emphasized that Govt of Assam must develop RBIFRERMP as a comprehensive Model Scheme for the future projects that will help other State Govts concerned in the implementation of similar Schemes. The success stories must be documented.

In reply, ACS, Govt of Assam agreed to do the same.

After detailed deliberations, all the 4 (four) flood schemes were accepted by the Advisory Committee. The acceptance of these proposals by Advisory Committee of DoWR, RD & GR does not guarantee any eligibility towards release of fund under any existing scheme of DoWR, RD & GR such as FMP etc.

The meeting ended with vote of thanks to the Chair.



Government of India**ADVISORY COMMITTEE FOR CONSIDERATION OF TECHNO-ECONOMIC VIABILITY OF MAJOR & MEDIUM IRRIGATION, FLOOD CONTROL AND MULTIPURPOSE PROJECT PROPOSALS****154th MEETING HELD ON DECEMBER 8th, 2023****List of Participants****Ms. Debashree Mukherjee, Secretary, DoWR, RD & GR****In Chair****Members of the Advisory Committee or their representative / Nominees:****Smt./Shri/Ms.**

1	Pawan Kumar, Additional Chief Advisor (Cost) , Representing Deptt. of Expenditure, MoF	Member (Joined Online)
2	Richa Thakur, Representing Advisor (WR & LR), NITI Aayog	Member (Joined Online)
3	Akshaya Kumar Sahoo, Dy. Secretary (Finance), DoWR, Representing JS & FA, DoWR, RD & GR	Member
4	Yogesh Paithankar, Chief Engineer, Project Appraisal Organization, CWC	Member Secretary


Special Invitees:**O/o Chief Advisor (Cost), Ministry of Finance**

1. Sh Partha Paul, US, Deptt. of Expenditure(Joined Online)

Deptt of Water Resources, RD & GR**Shri**

1. A.S. Goel, Commissioner (SPR)
2. Atul Jain, Commissioner (FM)
3. Rajesh Kumar , Senior Joint Commissioner (FM)
4. Amit Kumar Jha, Senior Joint Commissioner (SPR)- (Joined online)

Central Water Commission**Shri/Ms**

1. P.M Scott, Member (RM), New Delhi
 2. B.K. Karjee, Chief Engineer, FMO, New Delhi
 3. Nityananda Mukherjee, Director, PA(N) , New Delhi
 4. Piyush Kumar, Director, FMP Dte., New Delhi
 5. Hitesh Gupta, Deputy Director, PA(N), New Delhi
 6. Satyajit Barman, Assistant Director, PA(C) Dte. New Delhi
 7. Rampratap Singh Tomar, Assistant Director, Cost (HWF) Dte. New Delhi
 8. Anjali Srivastava, Assistant Director-II, PA(S) Dte, New Delhi
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Officers from State Government of Assam

Shri

1. S Abbasi, ACS , Govt of Assam - (Joined online)
2. Pranab Kr. Turning, Chief Engineer, WRD
3. Dr Rajib Kr Goswami, Addl. Chief Engineer, EAP, WRD
4. A.M.Mazumder, SE, Guwahati W.R. Circle, Guwahati.
5. Suleman Ali Ahmed, Executive Engineer, Goalpara W.R Division (Zone-D)
6. Hridayananda Gogoi, AEE, Dibrugarh, W.R.Division (Zone-A)
7. Debajit Das, Goalpara East W.R. Sub-Divn
8. Anurag Thakuria, Assistant Engineer, Kamrup Rural W.R Division (Zone-C)
9. Dipankar Roy, Assistant Executive Engineer, Morigaon W.R Division (Zone-B)

