



सत्यमेव जयते

जल शक्ति मंत्रालय  
जल संसाधन, नदी विकास और गंगा संरक्षण विभाग  
भारत सरकार

MINISTRY OF JAL SHAKTI  
DEPARTMENT OF WATER RESOURCES,  
RIVER DEVELOPMENT & GANGA REJUVENATION  
GOVERNMENT OF INDIA

# Annual Report

2024-25



5<sup>th</sup> National Water Awards



Launch of 'Jal Sanchay Jan Bhagidari' initiative

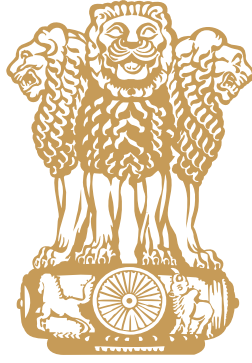


8<sup>th</sup> India Water Week



Launch of Ken Betwa Link Project by Hon'ble Prime Minister





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# ANNUAL REPORT 2024-25

MINISTRY OF JAL SHAKTI  
DEPARTMENT OF WATER RESOURCES,  
RIVER DEVELOPMENT AND GANGA REJUVENATION  
GOVERNMENT OF INDIA





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# ABBREVIATIONS

AARDO	African-Asian Rural Development Organization
AAS	Atomic Absorption Spectrophotometer
ADB	Asian Development Bank
ADCP	Acoustic Doppler Current Profiler
AIBP	Accelerated Irrigation Benefits Programme
AICTE	All India Council for Technical Education
AIIA	All India Institute of Ayurveda
AIIB	Asian Infrastructure Investment Bank
AKAM	Azadi Ka Amrit Mahotsav
AMRUT	Atal Mission for Rejuvenation and Urban Transformation
ARS	Artificial Recharge Structure
ATNs	Action Taken Note
AYUSH	Ayurveda, Yoga & Naturopathy, Unani, Siddhaand Homoeopathy
B.E.	Budget Estimate
BB	Brahmaputra Board
BBMP	Bruhat Bengaluru Mahanagara Palike
BCB	Bansagar Control Board
BCM	Billion Cubic Meter
BOOT	Build Operate Own and Transfer
BOPs	Border Out-Posts
BRB	Betwa River Board
BSIP	Birbal Sahni Institute of PalaeoSciences
BWUE	Bureau of Water Use Efficiency
CA	Central Assistance
CAD&WM	Command Area Development and Water Management
CAU	Central Agricultural University
CCA	Cultivable Command Area
CCD	Concrete Check Dams
CEA	Central Electricity Authority
CEE	Centre for Environment Education
CEE	Committee on Establishment Expenditure
CGA	Controller General of Accounts
CGWA	Central Ground Water Authority
CGWB	Central Ground Water Board
CIFRI	Central Inland Fisheries Research Institute
CIMO	Central Irrigation Modernization Office
CLEG	Central Level Expert Group

CMIS	Coastal Management Information Service
CMPs	Coastal Management Plans
CoE	Center of Excellence
CORS	Continuously Operating Reference Stations
CoWT	Centre of Water Technology
CPCB	Central Pollution Control Board
CPIOs	Central Public Information Officers
CSIR	Scientific and Industrial Research
CSMRS	Central Soil and Materials Research Station
CVC	Central Vigilance Commission
CVO	Chief Vigilance Officer
CWC	Central Water Commission
CWMA	Cauvery Water Management Authority
CWPRS	Central Water and Power Research Station
CWRC	Cauvery Water Regulation Committee
CWRDM	Centre for Water Resources Development & Management
CWWG	Crop Weather Watch Group
D&R	Design and Research
DAIC	Dr. Ambedkar International Centre
DBIM	Digital Brand Identity Module
DDP	Desert Development Programme
DDS	Drainage Development Schemes
DEG	Damanganga (Ekdare)-Godavari
DEM	Digital Elevation Models
DGC	District Ganga Committees
DGPS	Digital Global Positioning System
DGPs	District Ganga Plans
DGQI	Data Governance Quality Index
DHARMA	Dam Health and Rehabilitation Monitoring Application
DIPs	District Implementation Partners
DLI	Disbursement Linked Indicator
DMIC	Delhi Mumbai Industrial Corridor
DO	Dissolved Oxygen
DoDWS	Department of Drinking Water and Sanitation
DoPT	Department of Personnel and Training
DoWR,	RD &GR Department of Water Resources, River Development and Ganga Rejuvenation
DPAP	Drought Prone Area Programme
DPR	Detailed Project Report
DRIP	Dam Rehabilitation and Improvement Project

DSC	Data and Strategy Committee
DSO	Dam Safety Organisation
DSS	Decision Support System
DVG	Damanganga-Vaitarna-Godavari
DWLRs	Digital Water Level Recorders
DWRIS	Development of Water Resources Information System
EAC	External Expert Committee
EAP	Emergency Action Plans
EC	Environmental Compensation
EHP	Extended Hydrological Prediction
ELM	Expert Level Mechanism
EMC	Engineering and Management Consultant
EMDBS	Eklavya Model Day Boarding Schools
EMP	Environmental Management Plans
EMRS	Eklavya Model Residential School
EPA	Environment Protection Act
e-PAMS	A web-enabled Project Appraisal Management System
EPC	Engineering, Procurement and Construction
ERM	Extension Renovation Modernisation
ERNET	Education and Research Network
ETF	Empowered Task Force
FBP	Farakka Barrage Project
FC	Faecal Coliform
FE&SA	Foundation Engineering & Special Analysis
FF	Flood Forecasting
FM	Flood Management
FMBAP	Flood Management and Border Areas Programme
FRI	Forest Research Institute
GAP	Ganga Action Plan
GB	Governing Body
GBS	Gender Budget Statement
GC	Governing Council
GFCC	Ganga Flood Control Commission
GGU	Guru Ghasidas University
GHLSC	Gandak High Level Stand- ing Committee
GIS	Geographic Information System
GKC	Ganga Knowledge Centre
GLOF	Glacial Lake Outburst Flood
GMB	Ganga Management Board
GPIs	Grossly polluting Industries

GRMB	Godavari River Management Board
GWM & R	Ground Water Management & Regulation
GWQ	Ground Water Quality
H.E.	Hydro Electric
HEIs	Higher Education Institutions
HKKP	Har Khet Ko Paani
HPC	High Powered Committee
HPRB	High Power Review Board
HSO	Hydrological Studies Organization
IARI	Indian Agricultural Research Institute
IAs	Implementing Agencies
ICED	International Centre of Excellence for Dams
ICFRE	Indian Council of Forestry Research and Education
ICID	International Commission on Irrigation & Drainage
IEC	Information, Education & Communication
IEWP	India-EU Water Partnership
IGNP	Indira Gandhi Nahar Project
IHHL	Individual Household Latrines
IIM	Industrial Research and Indian Institute of Integrative Medicines
ILR	Inter- Linking of Rivers
IMPs	Irrigation Modernization Plans
IMT	Irrigation Management Transfer
INCCC	Indian National Committee on Climate Change
INCGW	Indian National Committee on Groundwater
INCs	Indian National Committees
INCSW	Indian National Committee on Surface Water
IN-GRES	India- Groundwater Resource Estimation System
IRBM	Integrated River Basin Management
ISRWD	Inter-State River Water Disputes
IT	Information Technology
ITI	Industrial Training Institute
ITP	Induction Training Programme
IWCIMS	Integrated Water and Crop Information and Management System
IWIS	India Water Impact Summit
IWRDS	Investigation of Water Resources Development Scheme
IWRM	Integrated Water Resources Management
IWW	India Water Week
JC	Joint Committee
JCIFM	Joint Committee on Inundation and Flood Management
JCKGP	Joint Committee Kosi and Gandak Projects

JCWR	Joint Committee in Water Resources
JET	Joint Expert Team
JGE	Joint Group of Experts
JICA	Japan International Cooperation Agency
JJM	Jal Jeevan Mission
JPO-SKSKI	Joint Project Office–Sapta Kosi & SunKosi Investigation
JRC	Joint Rivers Commission
JSA: CTR	Jal Shakti Abhiyan: Catch The Rain
JSC	Joint Steering Committee
JSJB	Jal Sanchay Jan Bhagidari
JSKs	Jal Shakti Kendras
JSTC	Joint Standing Technical Comiittee
JTE	Joint Team of Experts
JTT	Joint Technical Team
JWG	Joint Working Group
KBK	Koraput, Balangir and Kalahandi
KHLC	Kosi High Level Committee
KRMB	Krishna River Management Board
KVS	Kendriya Vidyalaya Sangathan
KWDT	Krishna Water Dispute Tribunal
LIDAR DEM	Light Detection and Ranging Digital elevation models
LiFE	Lifestyle for Environment
LTIF	Long Term Irrigation Fund
MCD	Masonary Check Dams
MCum	Million Cubic Meters
Me PGCL	Meghalaya Energy Corporation Limited
MEA	Ministry of External Affairs
MHA	Ministry of Home Affairs
MI	Minor Irrigation
MI	Micro-Irrigation
MMI	Major & Medium Irrigation
MoA	Memorandum of Agreement
MoEF & CC	Ministry of Environment, Forest and Climate Change
MoEWRI	Ministry of Energy, Water Resources and Irrigation
MoU	Memorandum of Understanding
MTR	Mid Term Review
MWDT	Mahanadi Water Disputes Tribunal
MWDT	Mahadayi Water Disputes Tribunal
NABET	National Accreditation Board of Education and Training
NABL	National Accreditation Board for Testing and Calibration Laboratories

NAPCC	National Action Plan on Climate Change
NAQUIM	National Aquifer Mapping and Management program
NBWUE	National Bureau of Water Use Efficiency
NCA	Narmada Control Authority
NCDS	National Committee on Dam Safety
NCR	National Capital Region
NCSDP	National Committee on Seismic Design Parameters
NDB	New Development Bank
NDSA	National Dam Safety Authority
NEHARI	North Eastern Hydraulic & Allied Research Institute
NEIAH	North Eastern Institute of Ayurveda and Homeopathy
NERIWALM	North Eastern Regional Institute of Water and Land Management
NGC	National Ganga Council
NGM	Namami Gange Mission
NGOs	Non-Governmental Organizations
NGRBA	National Ganga River Basin Authority
NGRI	National Geophysical Research Institute
NHP	National Hydrology Project
NIC	National Informatics Centre
NIELIT	National Institute of Electronics & Information Technology
NIH	National Institute of Health
NIH	National Institute of Hydrology
NIRA	National Interlinking of Rivers Authority
NMC	Narmada Main Canal
NMCG	National Mission for Clean Ganga
NOC	No Objection Certificate
NPCC	National Projects Construction Corporation Limited
NPP	National Perspective Plan
NRCD	National River Conservation Directorate
NRCP	National River Conservation Plan
NRIADD	National Research Institute of Ayurvedic Drug Development
NRLD	National Register of Large Dams
NWAs	National Water Awards
NWDA	National Water Development Agency
NWIC	National Water Informatics Centre
NWM	National Water Mission
NYKS	Nehru Yuva Kendra Sanghatan
O&M	Operational and Maintenance
ODF	Open Defecation Free
OFD	On-Farm Development



OGD	Open Government Data
OIIPCRA	Odisha Integrated Irrigation Project for Climate Resilient Agriculture
ONGC	Oil and Natural Gas Commission
PAFs	Project Affected Families
PDA	Pancheshwar Development Authority
PDN	Piped Distribution Network
PDS	Purpose Driven Studies
PFR	Pre-Feasibility Report
PIB	Public Investment Board
PIC	Permanent Indus Commission
PIM	Participatory Irrigation Management
PIP	Polavaram Irrigation Project
PIPs	Public Interaction programs
PIRC	Project Implementation Review Committee
PKC	Parbati-Kalisindh-Chambal
PMAY	Pradhan Mantri Awas Yojana
PMC	Project Management Consultant
PMGSY	Pradhan Mantri Gram Sadak Yojana
PMKSY	Pradhan Mantri Krishi Sinchayee Yojana
PMO	Project Monitoring Organization
PMU	Project Monitoring Unit
PPA	Polavaram Project Authority
PPIC	Pressurized Piped Irrigation Command
PPR	Preliminary Project Reports
PSs	Problem Statements
PVI	Preventive Vigilance Inspections
R&D	Research & Development
R&R	Rehabilitation & Resettlement
R.E.	Revised Estimates
RBM	River Basin Management
RBOs	River Basin Organizations
RBWT	Ravi-Beas Water Tribunal
RCC	Revised Cost Committee
RCNCA	Review Committee for Narmada Control Authority
RD & PP	River Development and Public Policy
RF	Rajasthan Feeder
RFD	River Front Development
RGNGWTRI	Rajiv Gandhi National Ground Water Training & Research Institute
RGoB	Royal Government of Bhutan
RMBA	River Management Activities& Works related to Border Areas

RMIS	Rationalization of Minor Irrigation Statistics
RRR	Repair Renovation & Restoration
RTDAS	Real Time Data Acquisition System
RTWQMS	Real-Time Water Quality Monitoring Stations
RWAs	Resident Welfare Associations
RWHS	Rain Water Harvesting Structures
SCADA	Supervisory Control and Data Acquisition
SCDS	State Committee on Dam Safety
SCILR	Special Committee for Interlinking of Rivers
SDSO	State Dam Safety Organization
SF	Sirhind Feeder
SHAISYS	Seismic Hazard Assessment Information System
SIH	Smart India Hackathon
SIMP	Support for Irrigation Modernization Program
SIMP	Support for Irrigation Modernization Program
SITC	Supply, Installation, Testing & Commissioning
SLCR	Smart Laboratory for Clean River
SMI	Surface Minor Irrigation
SoI	Survey of India
SPCBs	State Pollution Control Boards
SPR	State Projects
SPV	Special Purpose Vehicle
SRLIP	Sita Rama Lift Irrigation Project
SSCAC	Sardar Sarovar Construction Advisory Committee
SSDS	Sun Kosi Storage cum Diversion Scheme
SSMPP	Sitamma Sagar Multipurpose Project
SSP	Sardar Sarovar Project
STAC	Standing Technical Advisory Committee
STPI	Software Technology Parks of India
STPs	Sewage Treatment Plants
SWIC	State Water Informatics Centers
SWIC	State Water Informatics Centers
SWQ	Surface Water Quality
SWRM	Smart Water Resources Management
SWRMO	Smart Water Resources Modelling Organization
SYL	Sutlej-Yamuna Link
TA	Technical Assistance
TAC	Technical Advisory Committee
TARC	Technical Advisory and Review Committee
TB	Tungabhadra Board

TDA	Tarakeswar Development Authority
TEC	Techno-Economic Clearance
TEM	Transient Electro-magnetic
TERI	The Energy and Resources Institute
TMC	Thousand Million Cubic Feet
TPGVA	Third Party Government Verification Agency
TPP	Thermal Power Plants
TSAFI	Turtle Survival Alliance Foundation India
TTRO	Treatment and Reverse Osmosis Plant
TWW	Treated Waste Water
UPSPD	Uttar Pradesh State Forest Department
USO	United Schools Organization
UYRB	Upper Yamuna River Board
UYRC	Upper Yamuna Review Committee
VES	Vertical Electrical Sounding
VTC	Vocational Testing Center
VWDT	Vansadhara Water Dispute Tribunal
VWSCs	Village Water & Sanitation Committees
WALMI	Water and Land Management Institute
WAPCOS	Water and Power Consultancy Services Limited
WARIMS	Water and Allied Resources Information and Management System
WHIS	World Heritage Irrigation Structures
WII	Wildlife Institute of India
WIMS	Water Information Management System
WMCs	Water Management Committees
WRCD	Water Resources Division Council
WRI	World Resources Institute
WRIS	Water Resources Information System
WSPs	Water Security Plans
WUAs	Water Users' Associations
WUS	Water User Society
WWF	World Wide Fund for Nature





# Chapter 1

## Overview



# 1. Overview

**“Jal Jeevan Ka Amrit Hai”**

## 1.1 INTRODUCTION

Water is the elixir of life. Despite its critical importance, water is a finite resource, increasingly pressurized by a growing global population, rapid urbanization, industrial expansion, and evolving consumption patterns. These factors drive an ever-growing demand for water, presenting formidable challenges in sustainably managing this precious resource.

Countries face the dual impediment/ Challenge of satisfying the water needs of their citizens and economies while preserving the integrity of their water systems for future generations. Efficient and judicious water resource management is not only vital for supporting human health and livelihoods but also for fostering economic development, ensuring food security, and maintaining environmental balance.

The Department of Water Resources, River Development and Ganga Rejuvenation (DoWR, RD & GR), Ministry of Jal Shakti is responsible for laying down policy guidelines and programmes for the development, conservation and management of water as a national resource. It is also responsible for an overall national perspective of water planning and coordination in relation to diverse uses of water, water laws and

legislations, addressing inter-State and trans-boundary water issues, bilateral and multi-lateral cooperation, and general policy guidelines and programmes for assessment, development and regulation of the country's water resources. DoWR, RD& GR is also responsible for water quality assessment, rejuvenation of river Ganga and its tributaries and also conservation and abatement of pollution in other rivers.

The Department is also allocated the subjects pertaining to regulation and development of inter-State rivers, implementation of awards of Tribunals, technical guidance, scrutiny, clearance and monitoring of the irrigation, flood control and multi-purpose projects, ground water management, flood proofing, water logging, sea erosion and dam safety.

The Ministry of Jal Shakti is headed by the Hon'ble Union Minister Shri C R Paatil, who assumed charge on 11th June, 2024. Shri Raj Bhushan Choudhary and Shri V. Somanna both assumed charge as the Hon'ble Ministers of State in the Ministry of Jal Shakti on 11th June, 2024. Ms. Debashree Mukherjee has taken charge as the Secretary of the Department on 3rd October, 2023. The organization chart of the Department is given at Annexure-I. The present staff strength of the Department (as on 31.03.2024) is given at Annexure-II.

The list of names and addresses of senior officers and heads of organizations under the Department is given at Annexure-III.

There are 12 wings in the Department, viz; Administration, Brahmaputra & Barak, Command Area Development and Water Management, Economic Advisory, Flood Management, Finance, International Cooperation and Ground Water, Indus, Minor Irrigation Statistics, Ganga Rejuvenation, River Development & Public Policy and State Projects. Also, the Department performs its functions with the support of its following specialized agencies:

- Two attached offices: Central Water Commission and Central Soil & Materials Research Station;
- Seven sub-ordinate offices: Central Ground Water Board, Central Water and Power Research Station, Ganga Flood Control Commission, Bansagar Control Board, Upper Yamuna River Board, Farakka Barrage Project and National Water Informatics Centre;
- Fourteen Registered Societies, Autonomous Bodies or Statutory Bodies: National Water Development Agency, National Water Mission, National Institute of Hydrology, North Eastern Regional Institute of Water and Land Management, National Mission for Clean Ganga, Narmada Control Authority, Brahmaputra Board, Betwa River Board, Tungabhadra Board, Polavaram Project Authority, Krishna River Management Board & Godavari River Management Board, Cauvery Water Management Authority and National Dam Safety Authority.
- Two public sector enterprises: Water and Power Consultancy Services Limited (WAPCOS) and National Projects Construction Corporation Limited (NPCC).

### **Jal Sanchay Jan Bhagidari**

- The "Jal Sanchay Jan Bhagidari" initiative, part of the Jal Shakti Abhiyan: Catch the Rain (JSA: CTR) campaign, was launched in Surat on September 6, 2024, with a virtual address by the Hon'ble Prime Minister, highlighting the critical role of public participation in water conservation.
- This initiative seeks to bring together diverse stakeholders—including government agencies, industries, local authorities, philanthropists, resident welfare associations (RWAs), and individuals—in a concerted effort to conserve water. The primary focus is on constructing artificial recharge structures, borewell recharges, and recharge shafts to enhance groundwater storage and recharge levels nationwide.
- The main objective of the Jal Sanchay Jan Bhagidari initiative is to conserve every drop of water through collaborative efforts, employing a whole-of-



society and whole-of-government approach. By fostering community ownership and responsibility, the initiative aims to develop cost-effective, localized solutions to address specific water challenges across various regions

- A key target of the initiative is the construction of at least one million recharge shafts, with approximately 25,000 already completed. These efforts are designed to improve groundwater levels and promote sustainable water management.

### 5th National Water Awards

- Hon'ble President of India, presented the 5th National Water Awards at Vigyan Bhawan in New Delhi on 22nd October 2024.
- The National Water Awards (NWAs) focus on the good work and efforts made by individuals and organisations across the country in attaining the government's vision of a 'Jal Samridh Bharat'. The awards are for creating awareness among the people about the importance of water and motivating them to adopt best water usage practices. The event provides an occasion for all people and organizations to further cement a strong partnership and people engagement in water resources conservation and management activities.
- The fifth National Water Awards were presented in nine categories - Best State, Best District, Best Village Panchayat, Best Urban Local Body, Best School or College, Best Industry, Best Water User Association, Best Institution (other than school or college), and Best Civil Society.
- 38 Winners, including joint winners across 9 categories were awarded for their exemplary work in the field of water conservation and management. Each award winner was conferred with a citation and a trophy as well as cash prizes in certain categories.

The 6th National Water Awards, launched in 2025, have been initiated to raise awareness among people about the importance of water and to motivate them to adopt the best water usage practices.

### Bhu-Neer Portal

- The Bhu-Neer Portal, inaugurated by Hon'ble Minister of Jal Shakti, Shri C.R. Paatil, on September 19, 2024, during India Water Week 2024, is a cutting-edge platform aimed at streamlining the issuance of No Objection Certificates (NOCs) for groundwater usage. Developed by the Central

Ground Water Authority (CGWA) in collaboration with the National Informatics Centre (NIC), it serves as a modern replacement for the older NOCAP portal.

- This advanced portal features a user-friendly interface with a PAN-based single ID system, NOCs equipped with QR codes, and real-time updates through SMS and email. These enhancements ensure greater transparency, efficiency, and accessibility in the groundwater management process, eliminating the need for physical interactions and making the system more efficient for users.

### **8th India Water Week (IWW)**

- The 8th India Water Week (IWW) 2024 was inaugurated by President Smt. Droupadi Murmu in New Delhi, with the esteemed presence of Union Minister of Jal Shakti, Shri C.R. Paatil, and Minister of State for Jal Shakti, Dr. Rajbhushan Choudhary. The event served as a crucial platform for dialogue and collaboration on pressing water issues.
- Key recommendations emerged from the 8th IWW 2024 on the various facets of water sector viz. Collaboration & Cooperation for Water Security, Integrated Water Resources Development & Management, Challenges in Water Sector Infrastructure, Risk and New Approaches to Climate Resilience, Groundwater Sustainability and Management, Water Governance and Financing, Water related Disasters and its Management etc.
- Experts from Denmark, Singapore, Guyana, Zimbabwe, Indonesia, Morocco and Cambodia shared their experiences and highlighted their best practices in water sector. These sessions highlighted the opportunities for cooperation and collaboration between Governments and Businesses in water sector.
- Additionally, an exhibition showcased innovative water solutions, underlining the importance of sustainable water management. The event reinforced the global commitment to tackling water-related challenges and fostering long-term solutions for water sustainability.

### **Ken-Betwa Link Project (KBLP)**

- Prime Minister Narendra Modi laid the foundation stone for the Ken-Betwa river-linking project in Khajuraho, Madhya Pradesh, on December 25, 2024. This landmark project, the first under India's National Perspective Plan (NPP) for Interlinking of Rivers (ILR), aims to alleviate the chronic water scarcity in the Bundelkhand region, spanning parts of Madhya Pradesh and Uttar Pradesh.
- The project is expected to provide annual irrigation of 10.62 lakh ha. (M.P. 8.11 lakh ha, UP 2.5 lakh ha), drinking water supply to about 62 lakh (MP 41 lakh, UP 21 lakh) people and also generate 103 MW of hydropower and 27 MW solar power generation.

## 1.2 MAJOR SCHEMES AND PROGRAMMES

Some of the activities and achievements of the Department under various schemes are summarized below (details are covered under Chapter-3 and Chapter-7).

### **PRADHAN MANTRI KRISHI SINCHAYEE YOJANA (PMKSY)**

PMKSY is an umbrella scheme, consisting of two major components being implemented by Ministry of Jal Shakti, namely, Accelerated Irrigation Benefit Programme (AIBP), and Har Khet Ko Pani (HKKP). HKKP, in turn, consists of four sub-components: (i) Command Area Development & Water Management (CAD&WM); (ii) Surface Minor Irrigation (SMI); (iii) Repair, Renovation and Restoration (RRR) of Water Bodies; and (iv) Ground Water (GW) Development (approval only till 2021-2022, and thereafter only for ongoing works).

**Accelerated Irrigation Benefit Programme (AIBP):** Ninety-Nine ongoing Major/Medium irrigation projects (and 7 phases) were identified under AIBP during 2016-17. Out of these 99 projects and 62 projects have been reported by States to be completed so far. During 2016-2024, additional irrigation potential of 25.80 Lakh ha. has been created through these projects.

**Command Area Development and Water Management (CAD&WM):** Since 2016-17, CADWM Program has been restricted to 99 Prioritized AIBP Projects.

**Har khet ko Paani: Surface minor irrigation (SMI):** Since the launch of the SMI scheme in 2015-16, a total of 7,304

schemes have been ongoing with 3,160 of these schemes completed as of November 2024. The target for irrigation potential creation under these schemes is 11.50 lakh hectares, with 3.546 lakh hectares reported to have been created till November 2024.

**Har khet ko Paani: Repair, Renovation and Restoration (RRR) of water bodies:** Since 2015-16, a total of 3,075 schemes have been ongoing, with 1,661 water bodies completed as of November 2024. The target for irrigation potential creation in this scheme is 2.41 lakh hectares, with 1.093 lakh hectares reported to be restored till November 2024.

### **SPECIAL PACKAGE FOR COMPLETION OF IRRIGATION PROJECTS TO ADDRESS AGRARIAN DISTRESS IN VIDARBHA AND MARATHWADA REGION AND DROUGHT PRONE AREAS OF REST OF MAHARASHTRA**

The approval of the above scheme was given on 18.07.2018. The proposal aims to provide special package of Rs. 3,831.41 crore as central assistance to complete 83 SMI and 8 MMI (Major & Medium Irrigation) projects benefitting 12 districts of Vidarbha, Marathwada and drought prone areas of rest of Maharashtra. So far 53 SMI and 2 MMI project have been completed. The scheme has been extended till March 2025 for completion of balance works.

### **IRRIGATION CENSUS SCHEME**

“Rationalization of Minor Irrigation Statistics (RMIS)” was launched in 1987-88 in the DoWR, RD & GR, MoJS, with 100% central assistance to the States/ UTs. In

2017-18, the scheme was renamed as “Irrigation Census” to build up a comprehensive and reliable database in the Minor Irrigation (MI) sector for effective planning and policy making.

The continuation of the Irrigation Census scheme for a period of 5 years from 2021-22 to 2025-26 has been approved with a total outlay of Rs.237 crores for conducting 7th MI Census and 2nd Census of water bodies after completion of 6th MI Census and 1st Census of water bodies. Further, it is also proposed to conduct 1st census of Major and Medium Irrigation projects and 1st census of Springs also under 'Irrigation Census' scheme. 6th MI Census and 1st Census of Water Bodies has been completed successfully and reports of both the censuses have been uploaded on the website of the Ministry.

### **NATIONAL MISSION FOR CLEAN GANGA (NMCG)**

Government of India approved the Namami Gange Mission on 13th May 2015 as a comprehensive and integrated approach for Ganga River rejuvenation and its tributaries. The programme was subsequently extended up to 31st March 2026 with a budgetary outlay of Rs. 22,500 crores from April 2021 to March 2026.

### **ATAL BHUJAL YOJANA (ATAL JAL)**

Atal Bhujal Yojana (ATAL JAL) is being implemented since April, 2020 in 8,203 water stressed Gram Panchayats of 229 administrative blocks/ Talukas in 80 districts of seven States, viz. Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan and Uttar Pradesh for five years. The selected States account

for about 37% of the total number of water-stressed (over-exploited, critical and semi-critical) blocks in India.

### **GROUND WATER MANAGEMENT AND REGULATION (GWMR) SCHEME**

Ground Water Management and Regulation scheme is a continuing Central Sector Scheme, which is being implemented since 2007-08 by Central Ground Water Board (CGWB). One of the major activities under the scheme is National Aquifer Mapping & Management (NAQUIM) Programme, under which it was targeted to cover ~25 lakh sq km of mappable area and it has been covered by 31st March 2023. In addition to above other activities like ground water level & quality monitoring, assessment of dynamic ground water resources, regulation and control of ground water withdrawal, demonstrative recharge projects etc. have also been implemented.

To ensure continuity of the activities, the scheme has been approved for implementation till 31st March 2026 and includes activities like monitoring, assessment and regulation of groundwater resources and strengthening of infrastructure for technological up gradation.

### **PUBLIC INVESTMENT BOARD (PIB)**

The activities proposed under the National Aquifer Mapping and Management Project were originally proposed as part of the Central Sector Scheme “Ground Water Management and Regulation” under Component I (Aquifer Mapping and Management Programme, NAQUIM) of the Scheme for implementation during the

period 2021-26. As per the recommendations of the EFC meeting of GWMR scheme held on 31st August 2021, proposals for three sets of activities of time bound nature were prepared and presented before the Public Investment Board (PIB Committee and approved as NAQUIM(PIB) Project under the GWMR scheme. The NAQUIM(PIB) project has three components, namely: (i) Automation

of infrastructure for water level monitoring through construction of Piezometers and installation of Digital Water Level Recorders (DWLRs) in the country. (ii) High resolution aquifer mapping through heli-borne geophysical surveys and (iii) Data generation for aquifer mapping through well construction with an approved outlay of Rs.805 crores.

#### Achievements:

S.No	Components	Achievement (as on 30th November, 2024)
1	Construction of 7000 piezometers and installation of 7000 DWLRs with telemetry systems:	Construction of piezometers started and 1,401 piezometers have been drilled so far.
2	Construction of 1135 Exploratory Wells for generation of data for aquifer mapping:	Construction of EW/OW started and 223 EW/OWs have been drilled so far.

#### FLOOD FORECASTING

Central Water Commission (CWC) is providing flood forecasting services at 340 stations, of which 200 are level forecasting stations on major rivers and 140 are inflow forecasting stations on major dams/barrages. 2 new stations (Inflow) have started functioning during the year 2024. Flood Forecast operations cover the 20 major river systems in the country across 25 States and UTs.

#### FLOOD MANAGEMENT & BORDER AREAS PROGRAMME (FMBAP)

The States/UTs are provided promotional central financial assistance through Flood Management Programme (FMP) and River Management Activities & Works related to

Border Areas (RMBA) schemes of Department, which have been merged into a single scheme titled FMBAP which is under implementation.

#### NATIONAL PROJECTS

The Implementation of National Projects was approved in 2008 with central assistance to projects which meet the following criteria:

- International project where usage of water in India is required by a treaty or where planning and early completion of the project is necessary in the interest of the country.
- Inter-State projects which are dragging on due to non-resolution



in inter-State issues relating to sharing of costs, rehabilitation, aspects of power production, etc., including river inter-linking projects.

Sixteen projects have been declared as national projects so far. These projects are: Gosikhurd Irrigation Project, Shahpurkandi Dam Project, Teesta Barrage Project, Saryu Nahar Pariyojna, Polavaram Irrigation Project, Lakhwar Multipurpose Project, Renuka Dam Project, Kishau Multipurpose Project, Ujh Multipurpose Project, Ken-Betwa Link Project, Kulsi Dam Project, Noa-Dihing Dam Project, Bursar Hydro Electric Project, Gyspa Hydro Electric Project, 2nd Ravi Vyas Link Project and Upper Siang Project.

National projects are taken up for execution after the concerned States obtain techno-economic clearance, other statutory clearances and investment clearance.

### **NATIONAL HYDROLOGY PROJECT (NHP)**

National Hydrology Project (NHP), with support from the World Bank, envisages establishing a system for timely and reliable water resources data acquisition, storage, collation and management. It has Pan-India coverage with 48 Implementing Agencies (IAs) (including 9 from Central Government, 3 from River Basin Organisations, 36 from States/UTs). It will also provide tools and systems for informed decision making for water resources assessment, planning and management. The National Hydrology Project has been approved with an outlay of Rs. 3,679.77 crores as a Central Sector Scheme with 100% grant to State

Governments and Central Implementing Agencies. The project has a duration of 8 years from 2016-17 to 2023-24. Department of Expenditure, Ministry of Finance has accorded approval for completion of the Project upto September 2025 within the same allocation.

### **DAM REHABILITATION AND IMPROVEMENT PROJECT (DRIP)**

DRIP is an externally aided project with financial assistance from the World Bank, targeting rehabilitation of some of the selected dams of the country along with accompanying institutional strengthening component.

#### **DRIP: (Phase-II & III)**

Based on the success of DRIP Phase-I, Ministry of Jal Shakti initiated another externally funded scheme, DRIP Phase-II and Phase-III. The scheme has provision for rehabilitation of 736 dams located in 19 States (Andhra Pradesh, Chhattisgarh, Goa, Gujarat, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Odisha, Punjab, Rajasthan, Tamil Nadu, Telangana, Uttar Pradesh, Uttarakhand, West Bengal) and 3 Central Agencies (Central Water Commission, Bhakra Beas Management Board and Damodar Valley Corporation). It is a State Sector Scheme having central component, with duration of 10 years, to be implemented in two Phases i.e. Phase- II and Phase-III, each of six years duration with an overlap of two years.

### **RESEARCH AND DEVELOPMENT**

Research & Development (R&D) activities under the scheme "Research and Development Programme in Water Sector

and Implementation of National Water Mission” include basic and applied research, creation and up-gradation of research facilities and training of personnel implemented through the apex organizations of Department viz., CSMRS, CWPRS, NIH, and CWC. Also, the Department provides financial assistance to IITs, Universities, research organizations, etc., for taking up research in water sector through three Indian National Committees (INCs) constituted by the Department and Standing Advisory Committee headed by Secretary (WR, RD & GR). The Indian National Committees (INCs) constituted by the Department are Indian National Committee on Surface Water (INCSW), Indian National Committee on Groundwater (INCGW) and Indian National Committee on Climate Change (INCCC).

### **DEVELOPMENT OF WATER RESOURCES INFORMATION SYSTEM**

DWRIS scheme is a continuing scheme of 12<sup>th</sup> five-year plan, is under implementation during 2021-22 to 2025-26 with outlay of Rs. 715 crores, for creation of reliable and sound database for policy formulation, planning and designing of water resources projects, timely dissemination of flood forecast, etc.

### **INTERLINKING OF RIVERS UNDER NPP**

After concerted efforts taken by Ministry of Jal Shakti, a tripartite Memorandum of Agreement (MoA) for the implementation of Ken-Betwa link project was signed on 22.03.2021 amongst the Union of India, Government of Madhya Pradesh and Government of Uttar Pradesh in a virtual

event in the presence of Hon'ble Prime Minister of India. The MoU for preparation of DPR and implementation of the Modified Parbati-Kalisindh-Chambal link benefitting the States of Rajasthan and Madhya Pradesh was signed on 28.01.2024.

### **NATIONAL RIVER CONSERVATION PLAN**

The National River Conservation Directorate, functioning under the Department of Water Resources, River Development & Ganga Rejuvenation is providing financial and technical assistance to the State/UT Governments for conservation of rivers under the Centrally Sponsored Schemes of 'National River Conservation Plan (NRCP)'.

### **INDUS WATERS TREATY, 1960**

“Indus Waters Treaty 1960” was signed between India and Pakistan to fix and delimit the rights & obligations of both the countries in relation to each other concerning the use of the waters of the Indus System of Rivers. The Treaty was signed on 19th September, 1960 in Karachi, Pakistan. The Treaty provides for its provisions to be modified from time to time or terminated by a duly ratified treaty concluded for that purpose between the two Governments.

## **1.3 ORGANIZATIONS AND INSTITUTIONS**

### **ATTACHED OFFICES**

#### **CENTRAL WATER COMMISSION (CWC)**

CWC with its headquarters at New Delhi is a premier technical organization in the field of water resources in the country since 1945. The Commission is entrusted

with the general responsibility of initiating, coordinating and furthering, in consultation with the State Governments concerned, schemes for control, conservation and utilization of water resources throughout the country for the purpose of irrigation, flood control, drinking water supply and hydro-power development.

The Commission has three technical wings, namely:

- Design and Research Wing
- Water Planning and Projects Wing
- River Management Wing

(Website: [www.cwc.gov.in](http://www.cwc.gov.in))

### **CENTRAL SOIL AND MATERIAL RESEARCH STATION (CSMRS)**

CSMRS, New Delhi was established in 1954. CSMRS is an ISO 9001:2015 certified organization which deals with field and laboratory investigations, research and problems in geotechnical engineering, concrete technology, construction materials and associated environmental issues, having direct bearing on the development of irrigation and power in the country and functions as an adviser and consultant in the above fields to various projects and organizations in India and abroad. The Research Station is involved in the safety evaluation of existing hydraulic structures and quality control and quality assurance of construction for various river valley projects.

(Website: <https://csmrs.gov.in/>)

### **SUBORDINATE OFFICES**

### **CENTRAL GROUND WATER BOARD (CGWB)**

Central Ground Water Board (CGWB) is a scientific organization under the Department of Water Resources, River Development & Ganga Rejuvenation, Ministry of Jal Shakti, Government of India. It is responsible for all aspects of ground water surveys, exploration, development, and management. CGWB is a multidisciplinary organization with a mandate to develop and disseminate technologies for the scientific and sustainable development and management of India's ground water resources. The Board has around 600 scientists, 150 engineers, and 3,250 supporting staff.

The Board is headed by the Chairman and has five Members who look after 18 Regional offices, 17 Divisional offices and 10 State Unit offices throughout India and also perform other specified functions. Also, five permanent Members of the Board represent various ministries and agencies. (Website: <https://cgwb.gov.in>)

### **CENTRAL GROUND WATER AUTHORITY**

Central Ground Water Authority (CGWA) has been entrusted with the responsibility of regulating and controlling ground water development and management in the country. The functions/ responsibilities of CGWA include:

- Exercise of powers under section 5 of the Environment (Protection) Act, 1986 for issuing directions and taking such measures in respect of all the matters referred to in sub-section (2) of section 3 of the said Act.
- To resort to penal provisions contained in sections 15 to 21 of the said Act.



- To regulate and control, management and development of ground water in the country and to issue necessary regulatory directions for the purpose.
- Exercise of powers under section 4 of the Environment (Protection) Act, 1986 for the appointment of officers.

### **CENTRAL WATER AND POWER RESEARCH STATION (CWPRS)**

CWPRS, Pune is an apex research and development institution in the field of hydraulics and allied research in the water and power sector. It has continued to serve the needs of the nation for more than 100 years through research and development for evolving safe and economical planning and design of water resources structures, river engineering, hydropower generation, and ports and waterways projects. CWPRS has offered its services to a number of projects in the neighboring countries viz., Bangladesh, Bhutan, Afghanistan, Myanmar, Nepal, Singapore etc., as well as countries in Middle East. (Website: [www.cwprs.gov.in](http://www.cwprs.gov.in))

### **GANGA FLOOD CONTROL COMMISSION (GFCC)**

GFCC was established in 1972 with its head quarter at Patna. The Commission is headed by a chairman with two full time Members and other supporting officers and staff. The representatives of concerned Central Ministries and Departments as well as the Engineer-in-Chief/Chief Engineers of the Ganga basin States are part-time members/ permanent invites. The Commission provides technical guidance to the Ganga Basin States, namely, West

Bengal, Bihar, Jharkhand, Uttar Pradesh, Uttarakhand, Chhattisgarh, Madhya Pradesh, Delhi, Haryana, Himachal Pradesh and Rajasthan on Flood Management. (Website: [www.gfcc.gov.in](http://www.gfcc.gov.in))

### **BANSAGAR CONTROL BOARD (BCB)**

BCB was set up vide Government of India, Ministry of Agriculture and Irrigation Resolution No.8/17/74-DW -II dated 30th January, 1976 as amended vide Resolution No.8/17/74-DW -II dated 28th March, 1978. This Resolution was in accordance with an agreement reached between the Governments of Madhya Pradesh, Uttar Pradesh and Bihar on 16.09.1973 for sharing the waters of river Sone and the cost of the Bansagar Dam. (Website: [www.bcb.nic.in](http://www.bcb.nic.in))

### **UPPER YAMUNA RIVER BOARD (UYRB)**

UYRB is a subordinate office under the DoWR, RD & GR. A Memorandum of Understanding (MoU) was signed by the Chief Ministers of Himachal Pradesh, Haryana, Uttar Pradesh, Rajasthan, and National Capital Territory of Delhi on 12th May, 1994 regarding allocation of utilizable surface flow of river Yamuna upto Okhla Barrage (Upper Yamuna) among the co-basin States. In order to implement the said MoU, Upper Yamuna River Board (UYRB) was constituted by the Govt. of India vide Resolution No. 10(66)/71-IT dated 11th March 1995, in accordance with the provision of the MoU. After the creation of Uttaranchal State in 2000, the resolution was modified to include Uttaranchal (now Uttarakhand) in the Board in 2001.

(Website: <https://jalshakti-dowr.gov.in/upper-yamuna-river-board/>)

### **FARAKKA BARRAGE PROJECT (FBP)**

FBP was commissioned in 1975 for preservation and maintenance of the Shyama Prasad Mookerjee Port (erstwhile Kolkata Port) and diverting 40,000 cusecs of water into Feeder Canal for improving regime and navigability of the Bhagirathi-Hooghly River system. The Farakka Barrage Project also facilitates sharing of Ganga waters between Bangladesh and Government of India as per Treaty between the Governments of Bangladesh and India on sharing of the Ganga waters at Farakka signed in 1996. (Website: [www.fbp.gov.in](http://www.fbp.gov.in))

### **NATIONAL WATER INFORMATICS CENTRE (NWIC)**

NWIC was setup in March, 2018 as a Subordinate Office of the Department of Water Resources, River Development & Ganga Rejuvenation. NWIC is mandated to be a repository of nation-wide water resources data.

NWIC is presently maintaining two platforms as per details given below:

- **Water Information Management System (WIMS):** This is a centralised data aggregating platform for collection of time-series data for ground water and surface water through manual mode and telemetry sensors. Different Central and State agencies share their time series data on rainfall, river level, discharge, reservoir level, ground water level, surface and ground water quality etc. on the WIMS platform.
- **Water Resources Information System (India-WRIS):** This is a GIS

enabled public platform (accessible through U R L : <https://indiawris.gov.in/wris/#/> ) for display and dissemination of water resources information. The time-series data received through WIMS along with other data on hydro-meteorological parameters and allied themes is displayed through maps and dashboard on a GIS framework over the portal. (Website: <https://nwic.gov.in/>)

### **REGISTERED SOCIETIES / AUTONOMOUS BODIES / STATUTORY BODIES**

#### **NATIONAL WATER DEVELOPMENT AGENCY (NWDA)**

NWDA was set up in July 1982 as a Society under Societies Registration Act, 1860 under the then Ministry of Irrigation (now Ministry of Jal Shakti) to study the feasibility of the links under peninsular component of National Perspective Plan. NWDA is fully funded by Government of India. The functions of NWDA have been modified from time to time. (Website: [www.nwda.gov.in](http://www.nwda.gov.in))

#### **NATIONAL WATER MISSION (NWM)**

NWM was set up as per the National Action Plan on Climate Change (NAPCC) approved by the Government of India and released by the Hon'ble Prime Minister on 30th June 2008. NAPCC laid down the principles and identified the approach to be adopted to meet the challenges of impact of climate change through institutionalization of 8 national missions, one of which was the 'National Water Mission'. The main objective of NWM is "conservation of water,

minimizing wastage and ensuring its more equitable distribution both across and within States through integrated water resources development and management". (Website: [www.nwm.gov.in](http://www.nwm.gov.in))

### **NATIONAL INSTITUTE OF HYDROLOGY (NIH)**

NIH, a Govt. of India Society under MoJS, DoWR, RD & GR established in December 1978 at Roorkee, is conducting basic, applied and strategic research in the fields of hydrology and water resources development. The Institute is fully aided by the MoJS, Govt. of India. The objectives of the Institute are:

- To undertake, aid, promote and coordinate systematic and scientific work on all aspects of hydrology,
- To cooperate and collaborate with other national and international organizations in the field of hydrology,
- To establish and maintain a research and reference library in pursuance of the objectives of the society and equip the same with books, reviews, magazines and other relevant publications,
- To carry out activities that the Society may consider necessary, incidental or conducive to the attainment of the objectives for which the Institute has been established.

(Website: [www.nihroorkee.gov.in](http://www.nihroorkee.gov.in))

### **NORTH EASTERN REGIONAL INSTITUTE OF WATER AND LAND MANAGEMENT (NERIWALM)**

North Eastern Regional Institute of Water

and Land Management (NERIWALM) is a Registered Society under the administrative control of the DoWR, RD & GR, Ministry of Jal Shakti, Government of India. This is the only Water and Land Management Institute (WALMI) established and administered by Government of India and is serving eight states of the North East India. NERIWALM is engaged in organising various regional, national as well as international training programmes extending its capacity building services to South East Asian countries. It imparts trainings to enhance knowledge, skill and capacity of in-service personnel working in the Departments of Water Resources/Irrigation, Soil Conservation, Agriculture & Horticulture, Rural Development, etc. including Water Users' Associations (WUAs) and farmers in the NE region of India. Customized mid-term training programmes and internships are also conducted on self-financed mode for BE/B.Tech/M.Tech/ Graduates/Post Graduate students as requested by colleges/universities for the fulfilment of their prescribed degree programmes. The institute also develops human resources in water and land management by opening academic course in M.Tech in water resource management. The services of the institute are also extended to State Governments and other organisations in water and land management by conducting R&D activities in the field of irrigation and agriculture. (Website: [www.neriwalm.gov.in](http://www.neriwalm.gov.in))

### **NATIONAL MISSION FOR CLEAN GANGA (NMCG)**

NMCG was registered as a society on 12.08.2011 under the Societies

Registration Act, 1860. It acted as the implementation arm of the National Ganga River Basin Authority (NGRBA), which was constituted under the provisions of the Environment Protection Act (EPA), 1986. NGRBA has since been dissolved with effect from 07.10.2016, consequent to the constitution of the National Council for Rejuvenation, Protection and Management of River Ganga (referred to as National Ganga Council) vide notification no. S.O. 3187(E) dated 07.10.2016 under EPA, 1986. (Website: <https://nmcg.nic.in/>)

### **NAMAMI GANGE**

The government of India approved the Namami Gange on 13th May 2015 for 5 years up to 31.03.2021 with a budgetary outlay of Rs. 20,000 crores, as a comprehensive and integrated approach for Ganga River rejuvenation and its tributaries. It includes a diverse set of interventions such as pollution abatement measures to tackle different sources of pollution such as municipal sewage, industrial effluents, municipal solid waste, non-point sources of pollution and interventions for improving ecological flows, biodiversity conservation, afforestation, improving amenities and sanitation at riverbanks, capacity building, research & monitoring, public awareness.

The programme was subsequently extended up to 31st March 2026 with a budgetary outlay of Rs. 22,500 crores from April 2021 to March 2026.

### **NARMADA CONTROL AUTHORITY (NCA)**

Narmada Control Authority (NCA) and Review Committee for Narmada Control Authority (RCNCA) were constituted in

1980 for proper implementation of the decisions and directions of the Narmada Water Disputes Tribunal vested with powers for implementation of the orders of the Tribunal with respect to the storage, apportionment, regulation and control of the Narmada water, sharing of power benefits from Sardar Sarovar Project (SSP), regulated release of water by Madhya Pradesh, acquisition of land likely to be submerged under the Sardar Sarovar Project by the concerned States, c o m p e n s a t i o n , resettlement/rehabilitation of the oustees, sharing of costs and implementation of the environmental safeguard measures.

(Website: [www.nca.gov.in](http://www.nca.gov.in))

### **BRAHMAPUTRA BOARD (BB)**

The Brahmaputra Board was constituted by an Act of Parliament and received the assent of the President on 01.09.1980. The Brahmaputra Board Act provides for the establishment of a Board for planning and integrated implementation of measures for the control of floods and bank erosion in the Brahmaputra valley and for matters connected therewith.

A High Powered Review Board to oversee the work of the Brahmaputra Board was constituted with the Union Minister of Jal Shakti as the Chairman, Chief Ministers of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura and Union Minister/Ministers of State-Finance, Surface Transport, Power, Agriculture, Ministers of State of Jal Shakti and Secretary to the Ministry of Jal Shakti, DoWR, RD&GR, Chairman of Central Water Commission as Members and Chairman of Brahmaputra Board as the Member-



Secretary. Member (RM), CWC is a permanent invitee.

(Website: [www.brahmaputraboard.gov.in](http://www.brahmaputraboard.gov.in)).

### **BETWA RIVER BOARD (BRB)**

BRB was constituted in 1976 by an Act of Parliament to execute the Rajghat Dam Project and Power House. The project authority started construction of the project under the overall guidance of Betwa River Board after promulgation of Betwa River Board Act 1976. The benefits and cost of the above projects are being shared equally by both the State Governments of UP and Madhya Pradesh. (Website: [www.brb.nic.in](http://www.brb.nic.in))

### **TUNGABHADRA BOARD (TB)**

TB was constituted by the President of India in exercise of the powers vested under sub section (4), section 66 of Andhra State Act, 1953 for completion of the Tungabhadra Project and for its operation and maintenance. The Board consists of a Chairman, appointed by the Government of India, and four Members, one each representing the States of Andhra Pradesh, Telangana, Karnataka and Government of India. Board exercises powers of a State Government under various codes, manuals, rules and regulations while discharging the functions on administrative matters of the project.

(Website: <http://tbboard.gov.in>).

### **POLAVARAM PROJECT AUTHORITY (PPA)**

Polavaram Irrigation Project (PIP) is a multi-purpose irrigation project contemplated across the river Godavari near Ramayyapeta village of Polavaram

mandal in Eluru District (erstwhile West Godavari District) of Andhra Pradesh. The benefits of the project include irrigation to 2.91 Lakh Ha under LMC and RMC with Annual irrigation of 4.36 Lakh Ha. The project also envisages generation of 960 MW of hydro power, 23.44 TMC of Drinking and Industrial water supply to Visakhapatnam, Domestic water supply to 28.50 lakh population in 611 villages, diversion of 80 TMC of water to Krishna river basin. The project has been declared as a National Project as per section 90 of Andhra Pradesh Reorganization Act, 2014. (Website: <https://ppa.gov.in>)

### **APEX COUNCIL AND KRISHNA & GODAVARI RIVER MANAGEMENT BOARDS**

In exercise of the powers conferred by sub-section (1) of section 84 of the Andhra Pradesh Reorganisation Act, 2014 (APRA 6 of 2014), the Central Government had constituted the Apex Council under the chairmanship of Hon'ble Minister for Water Resources (now, renamed as Minister of Jal shakti) with Hon'ble Chief Ministers of the States of Telangana and Andhra Pradesh as Members for supervision of the functioning of the Godavari River Management Board (GRMB) and Krishna River Management Board (KRMB) vide Gazette Notification dated 29th May, 2014. Two meetings of the Apex Council were held so far. The 1st meeting was held on 21.09.2016. The 2nd Meeting of the Apex Council was held through video conferencing on 06.10.2020 under the chairmanship of Hon'ble Minister, MoJS in which inter alia, it was decided that jurisdiction of GRMB and KRMB shall be notified by Government of India.

### **CAUVERY WATER MANAGEMENT AUTHORITY (CWMA)**

The Central Government in exercise of the powers conferred by section 4 of the Inter-State River Water Disputes Act, 1956 (33 of 1956) constituted the Cauvery Water Disputes Tribunal vide Notification Number S.O. 437 (E), Dated the 2nd June, 1990 to adjudicate upon the water disputes regarding the inter-State river Cauvery and the river valley thereof, among the States of Karnataka, Kerala, Tamil Nadu and Union Territory of Puducherry.

The Cauvery Water Disputes Tribunal submitted its reports and decision under section 5(2) of Inter-State River Water Disputes Act, 1956 to Government on 5th February, 2007. The decision of CWDT was published by the Central Govt. vide Gazette Notification dated 19.2.2013. Supreme Court in its judgement dated 16.02.2018, slightly modified CWDT Order. Hon'ble Supreme Court also directed Central Government to formulate a 'scheme' to implement the CWDT's Order as modified by it. Thereafter, in exercise of the powers conferred by section 6A of the said Act, the Central Government notified the Cauvery Water Management Scheme on 01st June, 2018, inter alia, constituting the 'Cauvery Water Management Authority' (CWMA) and the 'Cauvery Water Regulation Committee' (CWRC) to give effect to the decision of the Cauvery Water Disputes Tribunal as modified by the Hon'ble Supreme Court on 16.02.2018.

### **NATIONAL DAM SAFETY AUTHORITY (NDSA)**

Ministry of Jal Shakti Govt. of India vide gazette notification dated 17.02.2022

constituted National Dam Safety Authority (NDSA) with its headquarters at New Delhi. NDSA is headed by the Chairman and assisted by 5 Members viz. Member (Technical), Member (Policy and Research), Member (Regulation), Member (Disaster and Resilience) and Member (Administration and Finance). Posts of Members of NDSA are currently being held by the officers of CWC and DoWR, RD & GR on an additional charge basis. NDSA has four regional offices (North, East & North East, West and South) headed by the Director level officers of CWC on additional charge basis.

After enactment of the Dam Safety Act, Central Government, vide gazette notification dated 17.02.2022 also constituted the National Committee on Dam Safety (NCDS) to evolve dam safety policies and recommend necessary regulations as may be required. NDSA acts as a regulatory authority to implement the policy, guidelines and standards evolved by the NCDS for proper surveillance, inspection and maintenance of specified dams.

### **MAHADAYI - PRAWAH**

Mahadayi-PRAWAH (Progressive River Authority for Welfare and Harmony) has been constituted on May 22, 2023 to give effect to the decision of the Mahadayi Water Disputes Tribunal.

### **KEN-BETWA LINK PROJECT AUTHORITY**

Ken-Betwa Link Project Authority (KBLPA) has been constituted for the implementation of Ken-Betwa Link Project as a joint project of the Government of India and the states of Madhya Pradesh and Uttar Pradesh.

## PUBLIC SECTOR ENTERPRISES

### WATER AND POWER CONSULTANCY SERVICES LIMITED (WAPCOS)

WAPCOS Limited is a “MINI RATNA-I” Central Public Sector Enterprise under the administrative control of Ministry of Jal Shakti, Department of Water Resources, River Development and Ganga Rejuvenation, Government of India. Incorporated on June 26, 1969 under the Companies Act, 1956, WAPCOS is engaged in the engineering consultancy services and construction in the fields of Water, Power and infrastructure sectors in India and overseas.

The Company has implemented a comprehensive quality management system in compliance with the requirements of both ISO 9001:2015 for consultancy services in water resources, power and infrastructure development projects as well as ISO 9001:2015 for engineering, procurement and construction projects related to residential, office buildings, civil work etc. and related projects. (Website: <http://www.wapcos.co.in/>)

WAPCOS has been ranked No. 1 by ADB amongst international consultancy firms in Water and other Urban Infrastructure and Services sector with highest sanctioned financed amount for the years 2021 and 2022 as per Annual Procurement Reports published for the respective years. WAPCOS has also been ranked No. 2 amongst Consultants from India involved

in Consulting Services Contracts under ADB Loan, Grant and Technical Assistance Projects as per Asian Development Bank Member Fact Sheet for the period 2019-2023. WAPCOS is the only Indian Public Sector Enterprise featuring in these categories. (Website: <http://www.wapcos.gov.in/>)

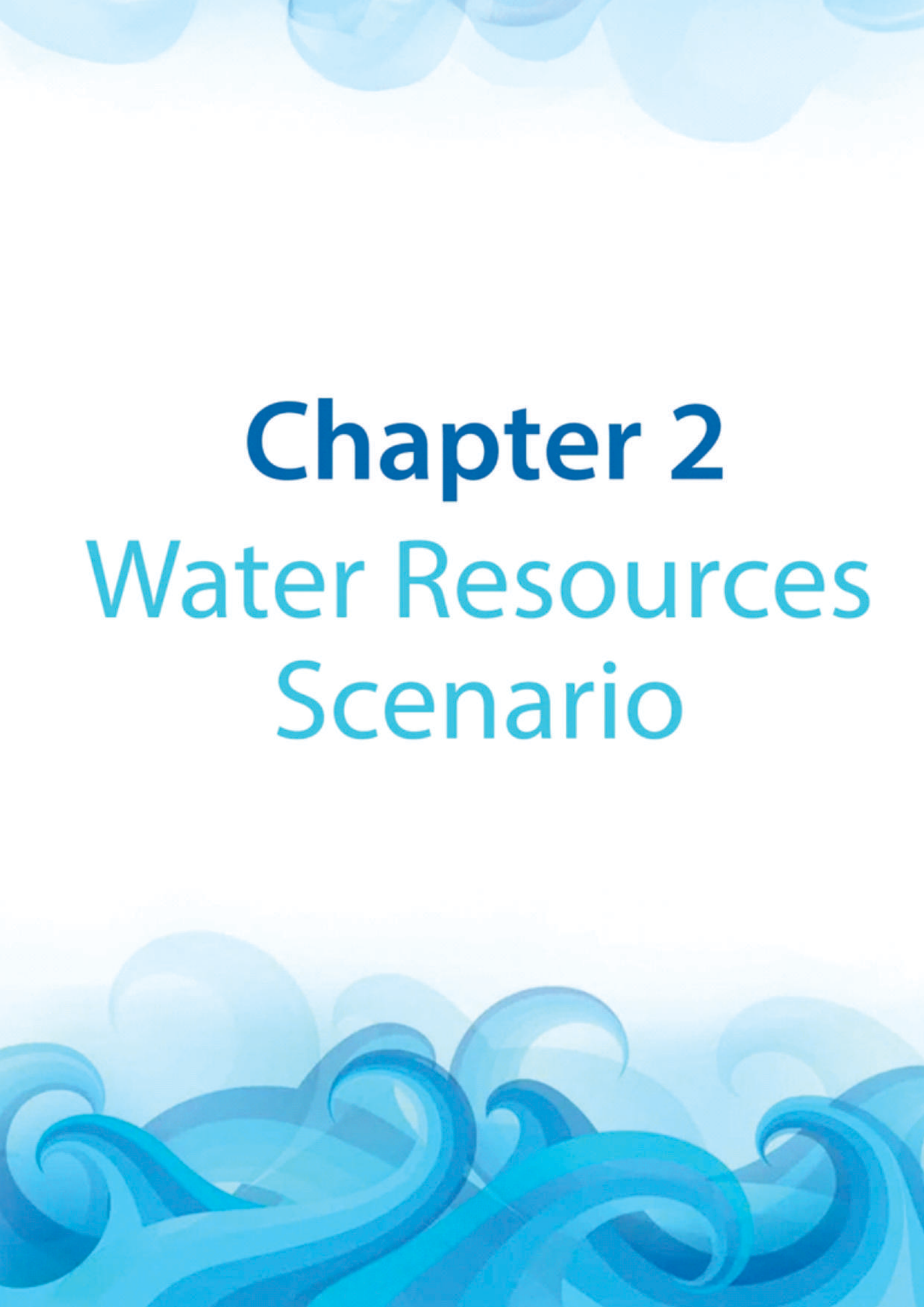
### NATIONAL PROJECTS CONSTRUCTION CORPORATION LIMITED (NPCC)

National Projects Construction Corporation Limited (NPCC), a “Mini Ratna-I” Central Public Sector Enterprise under the aegis of Ministry of Jal Shakti was incorporated on 9th January, 1957 under the Companies Act, 1956 as a premier construction company to create the necessary infrastructure for economic development of the Country. WAPCOS acquired 98.89% shareholding of National Projects Construction Corporation Limited (NPCC) as a result of which the Company has become a subsidiary of WAPCOS. It is engaged in engineering, construction, planning, operation & project management consultancy. The organization operates in industrial infrastructure, thermal, hydro power projects, tunneling & underground projects, railways, highways, surface transport projects, townships & other residential buildings, institutional buildings, office & sports complexes, bridges & flyovers, dams, weirs, barrages, Border roads, Border flood lighting & fencing works, hospitals & health sector projects, environmental engineering projects etc. (Website: <https://npcc.gov.in/>)









# **Chapter 2**

## Water Resources Scenario



## 2. Water Resources Scenario

**“Jal Hai To Kal Hai”**

### 2.1 WATER AVAILABILITY

The average annual water availability of any region or country is largely dependent upon hydro-meteorological and geological factors. As per the “Reassessment of water availability in basins using space inputs” report, the total water availability of India received through precipitation is about 3,880 billion Cubic Meter (BCM). Due to geological and other factors, the utilizable water availability is limited to 1,139 BCM per annum comprising 690 BCM of surface water and 449 BCM of replenishable ground water. Out of this, the water potential utilized is around 691 BCM, comprising 450 BCM of surface water and 241 BCM of groundwater. Total requirement of the country for different uses for high demand scenario for the years 2025 and 2050 has been assessed as 843 BCM and 1,180 BCM, respectively.

Water availability per person is dependent on population of the country. Per capita water availability in the country is reducing progressively. The average annual per capita water availability in the years 2021 and 2031 was assessed as 1,486 cubic meters and 1,367 cubic meters respectively which may further reduce due to increase in population. Annual per-capita water availability of less than 1,700 cubic meters is considered as water

stressed condition, whereas annual per-capita water availability below 1,000 cubic meters is considered as a water scarcity condition.

### 2.2 GROUND WATER RESOURCES OF INDIA

The Report of “National Compilation of Dynamic Ground Water Resources 2024” has been released by the Hon'ble Minister of Jal Shakti on 31st December, 2024.

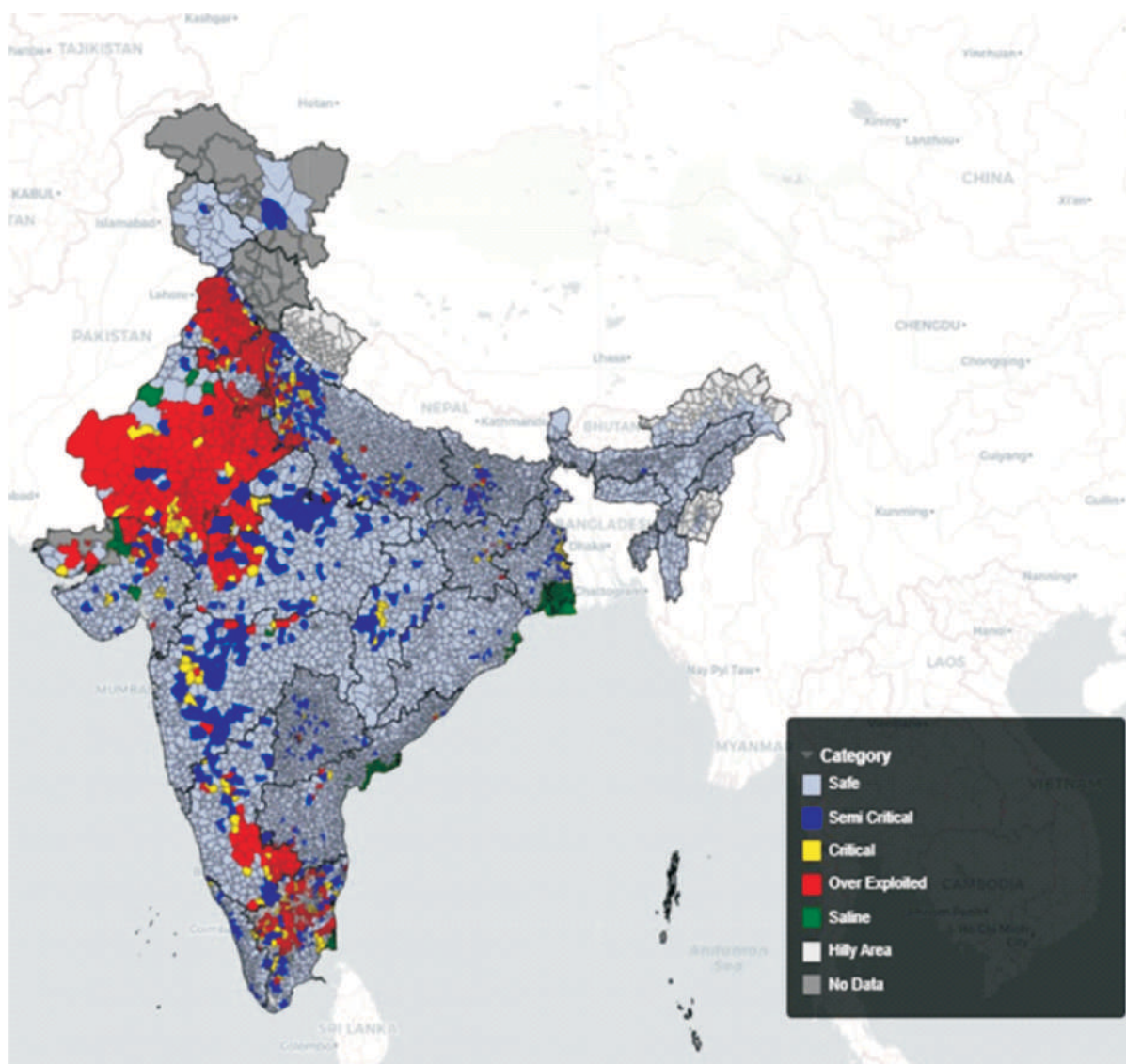
Assessment of Dynamic Ground Water Resources of India, 2023 has been carried out jointly by the Central Ground Water Board (CGWB) and State/UT Ground Water Departments under the overall coordination of the Central Level Expert Group (CLEG) constituted by DoWR, RD & GR, MoJS. The methodology prescribed by the Ground Water Estimation Committee-2015 was used in the assessment of ground water resources. The entire assessment has been done using the GIS based web portal 'India- Groundwater Resource Estimation System (IN-GRES)' developed by CGWB in association with the Indian Institute of Technology, Hyderabad.

The main sources of ground water recharge are from rainfall (60%) and balance from canal seepage, return flow of irrigation water, recharges from water bodies/tanks and water conservation structures.

Salient outputs of the assessment are summarized below:

Category	In billion cubic meter
Total Annual Ground Water Recharge	446.90 bcm
Annual Extractable Ground Water Resource	406.19 bcm
Annual Ground Water Extraction (for all uses)	245.64 bcm
Stage of Ground Water Extraction (SoE)	60.47 %

The assessment units (blocks/taluks/mandals/tehsil etc.) are categorized based on the Stage of Extraction (SoE) as 'Safe' if SoE < 70 %; 'Semi-critical' if SoE > 70 and ≤ 90 %; 'Critical' if SoE > 90 and ≤ 100% and 'Over-exploited' if SoE > 100 %. Assessment unit in which the ground water resources are entirely saline, have been categorised as 'Saline'.



Categorisation of ground water assessment units (CGWB, 2024)

Summary of the number of assessment units in each category is given below:

Sl. No	Category	Assessment Units	
		Number	approx %
1	Safe	4951	73.39
2	Semi Critical	711	10.54
3	Critical	206	3.05
4	Over-Exploited	751	11.13
5	Saline	127	1.88
	<b>TOTAL</b>	<b>6746</b>	

## 2.3 CONSTITUTIONAL PROVISIONS FOR MANAGEMENT OF WATER RESOURCES

Water is a subject matter included in Entry 17 of List II (State List), subject to the provisions of Entry 56 of List I (Union List) under the Seventh Schedule of the Constitution. Entry 17 of List II of the Seventh Schedule provides that “Water, that is to say, water supplies, Irrigation and canals, drainage and embankments, waters to rage and water power subject to the provisions of Entry 56 of List I.”

Entry 56 of List I (Union List) of Seventh Schedule provides that “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.” As such, the Union Government is conferred with powers to regulate and develop Inter-State rivers under Entry 56 of List I of the Seventh Schedule to the extent declared by the Parliament by law to be expedient in the public interest. The Union Government also has the power to make laws for the adjudication of disputes relating to waters of Inter-State River or river valleys under Article 262 of the Constitution.

## 2.4 NATIONAL WATER POLICY

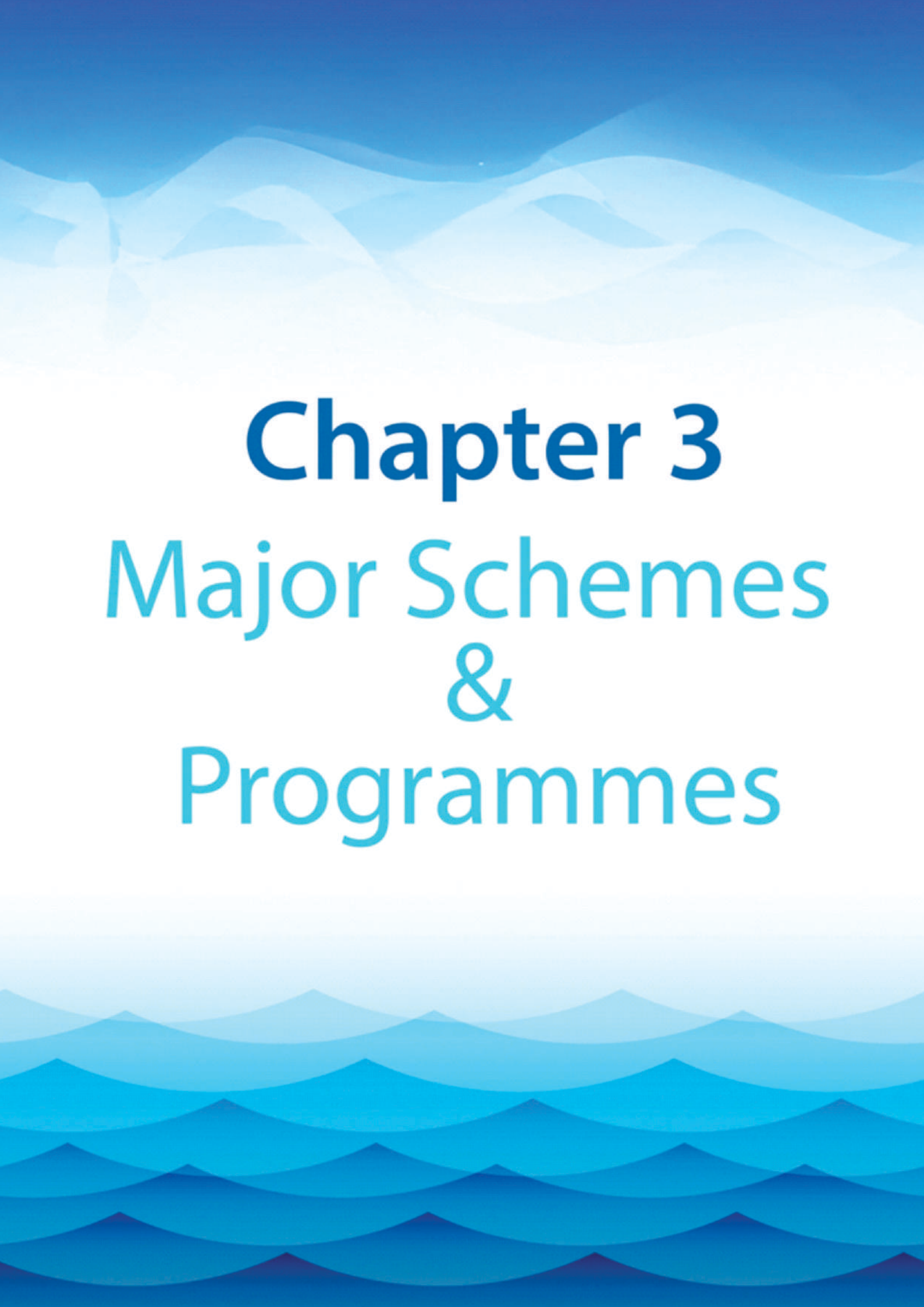
Central Government formulated the National Water Policy in 1987, which was subsequently reviewed and revised in the year 2002 and 2012. The main objective of the National Water Policy is to take cognizance of the existing situation in water sector, to propose a framework for creation of a system of laws and institutions and a plan of action with a unified national perspective in planning, management and use of water resources.

At present the National Water Policy - 2012 is in effect. However, to address the present challenges in water sector, revision of National Water Policy has been envisaged and a drafting committee was constituted to revise the National Water Policy, which has submitted its report.









# **Chapter 3**

## Major Schemes & Programmes





## 3. Major Schemes & Programmes

**“Jal Hi Jeevan Hai”**

### 3.1 PRADHAN MANTRI KRISHI SINCHAYEE YOJANA (PMKSY)

PMKSY was launched during 2015-16 by the Central Government with an overarching vision to ensure access to some means of protective irrigation for all agricultural farms in the country, thus bringing much desired rural prosperity.

PMKSY is an umbrella scheme, consisting of two major components being implemented by Ministry of Jal Shakti, namely, Accelerated Irrigation Benefit Programme (AIBP), and Har Khet Ko Pani (HKKP). HKKP, in turn, consists of four sub-components: (i) Command Area Development & Water Management (CAD&WM); (ii) Surface Minor Irrigation (SMI); (iii) Repair, Renovation and Restoration (RRR) of Water Bodies; and (iv) Ground Water (GW) Development (approval only till 2021-2022, and thereafter only for ongoing works). Further, in 2016, CAD&WM sub-component of HKKP was taken up for pari passu implementation with AIBP.

**Some of the broad objectives of the approved programme are as under: -**

- Achieve convergence of investments in irrigation at the field level (preparation of district level and, if required, sub district level water use plans);
- Enhance the physical access of

water on the farm and expand cultivable area under assured irrigation (Har Khet Ko Paani);

- Promote integration of water source, distribution and its efficient use, to make best use of water through appropriate technologies and practices;
- Improve on-farm water use efficiency to reduce wastage and increase availability both in duration and extent; irrigation and other water saving technologies (per drop more crop);
- Introduce sustainable water conservation practices;
- Ensure the integrated development of rain-fed areas using the watershed approach towards soil and water conservation, regeneration of groundwater, arresting run-off, providing livelihood options and other NRM activities;
- Promote extension activities relating to water harvesting, water management and crop alignment for farmers and grass-root level field functionaries.

### **Accelerated Irrigation Benefits Programme**

Government of India launched Accelerated Irrigation Benefits Programme (AIBP) in the year 1996-97 to provide Central

Assistance to States for the major/medium irrigation projects in the Country, with the objective to accelerate implementation of advanced stage irrigation projects held up due to financial constraints. However, a large number of irrigation projects taken up under Accelerated Irrigation Benefits Programme (AIBP) after its launch in 1996-97 again languished due to inadequate provision of Central and State share funds. As a result, large amount of funds spent on these projects were locked up and the benefits envisaged at the time of formulation of the projects could not be achieved.

Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) was launched in 2015-16, and Accelerated Irrigation Benefits Programme (AIBP) was coopted in it. Subsequently, Subsequently, ninety-nine (99) on-going Major/Medium irrigation projects (and 7 phases), were prioritized in consultation with States, for funding under PMKSY-AIBP.

#### **Innovation/initiatives under the scheme:**

- The arrangement of funds for central assistance (CA) during 2016-21 was made through NABARD as per year-wise requirements which would be paid back in 15 years' time. Since 2021-22, central assistance being provided through budgetary allocations. Further, the State Governments, if required, could also borrow funds from NABARD for the State share.
- In respect of the State share availed by States from NABARD, interest

subvention upto 2% is provided by the Central Government, in order to make it attractive for the States and encourage them to raise requisite State share for early completion of projects.

- The progress of the projects in physical as well as financial terms is monitored through the field units of Central Water Commission. Further, one nodal officer for each of the 99 priority projects has been identified who would be updating the physical and financial progress of the project regularly in the MIS developed for this purpose.
- Monitoring through MIS system and third party is being carried out.
- The use of pressurized pipe irrigation and micro irrigation wherever feasible is being promoted to increase efficiency. Land acquisition of 76,596 ha has been avoided in distribution system by adopting underground Piped Distribution Network (PDN) with estimated cost saving of Rs. 10,107 crores.
- Pari-Passu implementation of command area development works in the commands of these projects is envisaged to ensure that the irrigation potential created could be utilized by the farmers. Further, transfer of control and management of irrigation system to the Water Users' Association (WUA) has been made necessary condition for the acceptance of CADWM completion.

### INCLUSION OF NEW PROJECTS UNDER PMKSY-AIBP SINCE 2021-22

- The Union Government approved continuation of PMKSY on 15.12.2021 for the period 2021-26 along with permission for inclusion of new major and medium projects under PMKSY-AIBP. Funding of Renuka ji and Lakhwar National Projects were also approved to be funded through PMKSY-AIBP.
- Nine new projects have been included under PMKSY-AIBP after approval of its continuation during 2021-26 and North koel was also included in 2021-22 for funding under PMKSY. Besides these, Relining of Rajasthan Feeder and Sirhind Feeder and Shahpur Kandi National project, which were earlier being funded through LTIF, also being funded through PMKSY-AIBP.

The details of the same is as follows:

Sl. N.	State	Project	Eligible CA (Rs. Cr.)	Completion
1	Maharashtra	Jihe Kathapur Project	247.34	Jun -25
2	Himachal Pradesh	Nadaun Medium Irrigation Project	11.41	Mar-24
3	Rajasthan	Parwan Major Multipurpose Project	733.86	Jul -24
4	Tamil Nadu	Kannadian Channel	44.22	Sep -23
5	Assam	ERM of Sukla Irrigation Project	232.62	Dec -24
6	Manipur	ERM of Loktak Project Ph. I	51.94	Mar-25
7	Jharkhand and Bihar	North Koel Project (Balance CA)	1,115.18	Mar-26
8	Uttarakhand	Jamrani Multipurpose Project*	1,557.18	Mar-28
9	Maharashtra	Bodwad Parisar Sinchai yojana-I	278.62	Mar-25
10	Himachal Pradesh	Phina Singh Multipurpose Projects	282.47	Mar-26
<b>TOTAL</b>			<b>4,554.84</b>	

**Completion of projects:** Out of 99 prioritized projects, AIBP works of 62 projects have been reported to be completed by the concerned State

Governments. The details are at Annexure-IV. The details of central assistance and State share released during 2016- 17 to 2023-24 for AIBP works of 99

priority projects under PMKSY are given at *Annexure-V*.

### **COMMAND AREA DEVELOPMENT & WATER MANAGEMENT**

The programme was launched in 1974-75 and was restructured and renamed as Command Area Development and Water Management (CADWM) Programme in 2004. The scheme has been implemented as a State Sector Scheme during the XI Five Year Plan (2008-09 to 2011-12). During XII Plan, the CADWM programme has been implemented pari-passu with Accelerated Irrigation Benefits Programme (AIBP). The programme is being implemented under Pradhan Mantri Krishi Sinchai Yojna (PMKSY) - Har Khet Ko Pani from 2015-16. The ongoing CADWM programme has now been restricted to implementation of CAD works of 99 prioritized AIBP projects.

The main objective of taking up CAD works is to enhance utilization of irrigation potential created, and improve agriculture production on a sustainable basis through Participatory Irrigation Management (PIM).

The activities covered under CADWM component of a Project are broadly categorized as 'Structural' and 'Non-Structural'. The structural interventions include survey, planning, design and execution of On-Farm Development (OFD) works; Construction of field, intermediate & link drains; Correction of system deficiencies; and Reclamation of water-logged areas. On-Farm development works (OFD) typically comprise of construction of field channels, land leveling, and realignment of field

boundaries. Construction of a requisite infrastructure for Micro-irrigation, in lieu of above typical works, is also part of the OFD works.

The **Non-Structural Intervention** includes activities directed at strengthening of Participatory Irrigation Management (PIM) such as One-time Functional Grant to the registered Water Users Associations (WUAs); One-time Infrastructure Grant to the registered WUAs; and Trainings, demonstration and adaptive trials for water use efficiency, increased productivity and sustainable irrigation participatory environment.

To promote water use efficiency in irrigation, financial assistance is provided to the States for development of infrastructure for micro-irrigation to facilitate use of sprinkler / drip irrigation as an alternative to construction of field channels. Under the scheme, at least 10% of Culturable Command Area (CCA) of each project is required to be covered under micro-irrigation. Micro-irrigation infrastructure includes components of sump, pump, HDPE pipelines, and pertinent devices needed for bringing efficiency in water conveyance and field applications (through sprinklers, rain guns, pivots etc). However, the devices such as sprinkler/rain gun/drip sets etc. needed to be installed by individual farmers below farm outlets, are not part of the micro-irrigation infrastructure.

**Programme Implementation:** The Detailed Project Report (DPR) of the CAD&WM component of prioritized Project prepared by the concerned State Government is submitted to CAD Cell of the

pertinent Regional Office of CWC. CWC through its CAD Cell and the PMO appraises the DPR and forwards its recommendations to the CAD&WM Wing of the Ministry. CAD&WM Wing of Ministry processes the case for approval of competent level for inclusion of project under CAD&WM program.

All CAD works are planned, designed, tendered and executed by the State Governments. Central Water Commission (CWC) through its CAD Cells

in the Regional Offices of CWC and the Project Monitoring Organization (PMO) at its headquarters provides the overall monitoring and coordination support. Moreover, for monitoring of PMKSY-AIBP and CADWM projects, a Project Monitoring Unit (PMU) has been set-up. Project implementation is reviewed, coordinated and guided at half yearly intervals by the Project Implementation Review Committee (PIRC).

**Funding Pattern:** Funds under PMKSY for the CAD&WM component are provided to the State Governments as per cost sharing ratios (to be applied on the ceiling costs), as below:

S. No.	Activities Eligible for Funding	Cost Sharing Ratio
(a)	All activities of Structural interventions	50:50 (Centre: State)
(b)	All activities of Non-Structural interventions excluding Functional Grant to WUAs	60:40 (Centre: State)
(c)	Functional Grant to registered WUAs	45:45:10 (Centre: State: farmer)
(d)	Incremental Establishment Cost	50:50 (Centre: State)

For the eight North Eastern States and the three Himalayan States of Himachal Pradesh, Jammu & Kashmir, and Uttarakhand, the cost sharing norms for all activities of non-structural interventions except functional grant to water user associations, is prescribed as 75:25 (Centre: State) in lieu of 60:40 norms applicable for other States.

**Physical and Financial progress:** One of the key components of physical works under CAD&WM relates to construction of field channels. Since its inception in 1974-75 up to March 2023, CCA of 23.210 million hectares has been covered and central assistance of Rs. 10,125.82 crores have

been released to States during this period. During 2016-17 to 2023-24, central assistance of Rs. 3,128.79 crores have been provided for CAD&WM of the 99 prioritized projects. The details of central assistance and State Share released for these CADWM projects are given at **Annexure-VI**.

#### **Physical & Financial Progress**

During 12th Plan period, a CCA of 7.6 million hectares was targeted with CA amount of Rs 15,000 crore which was subsequently reduced to 3.6 million ha during mid-term appraisal. From 2015-16, the programme came under HKKP



component of PMKSY with a target of 1.5 million ha. Subsequently, from 2016-17 onwards, the role of programme has been restricted to 99 prioritized AIBP projects, under which the target was 4.5 million ha. Against this, the achievement till March, 2024 has been reported to be about 1.927 million ha, with release of central assistance of Rs. 3,128.79 crores during this period.

### **Participatory Irrigation Management (PIM)**

National Water Policy emphasizes participatory approach in water resources management. It has been recognized that participation of beneficiaries will help greatly in the optimal upkeep of irrigation system and effective utilization of irrigation water. The participation of farmers in the management of irrigation would include transfer responsibility for operation & maintenance and also collection of water charges to the water users' association (WUA) in their respective jurisdiction. One-time functional grant @ Rs. 1,200/-per hectare, to be shared by the Centre, State as well as farmers in the ratio of 45:45:10 respectively, is being paid to outlet level water users' associations as incentive, the interest from which is to be used for maintenance. Apart from this, an amount of Rs.3.00 lakh (60%-Central: 40%-State) is being provided to each WUA as one-time infrastructure grant.

Recognizing the need for sound legal frame work for PIM in the country, in 1998 a model act was circulated to be adopted by the States legislatures for enacting new irrigation Acts amending

existing irrigation Acts. At present there are 18 States who have either enacted new Act or modified their existing Act to fulfil the objective of the PIM. Strengthening of PIM is being aimed as part of the CAD&WM program. Under CAD&WM for the 99 prioritized projects during 2016-24, 14,685 WUAs were targeted to be created under the ongoing 88 projects, out of which 9,412 WUAs have been formed.

### **Irrigation Reforms: Smart Irrigation through proposed Modernization of CADWM works (MCAD)**

The Ministry is in the process of bringing irrigation reforms by modernization of CADWM component of PMKSY to make it more relevant in the current context. This smart irrigation scheme also envisages to transform the existing command (whether rain fed or gravity based) to a Pressurized Piped Irrigation Command (PPIC) by providing pressurized irrigation water from Established canal source to farm gate below Minor (Tertiary) Level Network. This will make the entire canal command area as micro-irrigation ready for farmers by providing robust backend infrastructure for on Surface Water. The Micro-Irrigation will shift to Surface Water and the dependency on the Ground Water will reduce.

The results are quick as the life cycle of the project is 2 years. An ideal size of the cluster can be from 50 Ha to up to 5000 Ha. Assuming average land holding of 1 Ha per farmer this will lead to a Water User Society [WUS] from 50 to 5000 farmers.

**The major areas of reforms under the proposed modernization are as:**



- **Institutional Changes** by Farmer Education on Water User Society (WUS) and Micro-Irrigation (MI).
- **Technology Changes** by Pressurized Piped Irrigation Command (PPIC) with Internet of Things (IOT) based Smart irrigation on tertiary distribution system.
- **Water Accounting & Monitoring** by Geo mapping, App, MIS, water accounting with AI.
- **On Farm Management** by providing data to farmers for rational farm management plans, sensors, IMD data, Eco system Trainings to use agri robots, drones.
- Develop WUS into an **Economic Entity** by handholding for five years and Irrigation Management Transfer (IMT) to the WUS for subsequent maintenance to its own funds.
- The overall benefits of the MCAD shall be many, related to water conservation, accounting, pricing, management and maintenance.

**Provision for Women Empowerment in proposed MCAD Scheme:** In line with National Water Policy, a major thrust on ensuring women's participation at all levels of irrigation management through the women wing of WUS's or minimum 30% participation of women in the Water User Society (WUS) has been provisioned. The women wing of WUS's to be evolved along the lines of Jal Shaelis model of Bundelkhand.

States will be guided to consider representation of women in the WUS at all levels. A women wing of WUSs will be

promoted which can take up activities such as development of small nursery, beehives, organic farming etc. in convergence with MoA&FW for additional income generation and sustainability of women wing. Based on gender-disaggregated data, a proportion of matching grants to registered WUSs will be reported in the Gender Budget Statement (GBS). Budget will be apportioned for women and reported in the GBS.

**Focus on Marginalized social groups, namely SC/ST/Person with disability (Divyangjan), Minorities and other vulnerable groups in MCAD Scheme:** The benefits of the proposed MCAD Scheme usually go to rural population engaged in farming, including SC/ST/PwD/Minorities/vulnerable groups. The relevant details of beneficiaries are proposed to be mapped in the MIS of the scheme.

#### **IMPLEMENTATION OF PMKSY- AIBP (INCLUDING CADWM) DURING 2021-26:**

PMKSY-AIBP including CAD&WM has been approved for implementation during 2021-26 with an outlay of Rs. 23,918 crores (central assistance), for completion of 60 ongoing AIBP and 85 ongoing CAD&WM projects, along with financial assistance for new major and medium irrigation projects. Funding of National Projects, including Renuka and Lakhwar Projects, is also approved.

- Financial progress requirement is dropped for inclusion of a project under AIBP and only physical progress of 50% to be considered.

- Advanced stage (50% physical progress) criteria is relaxed for projects having command area of 50% or more in Drought Prone Area Programme (DPAP), Desert Development Programme (DDP), flood prone, Tribal area, Flood prone area, left wing extremism affected area, Koraput, Balangir and Kalahandi (KBK) region of Odisha, Vidarbha & Marathwada regions of Maharashtra and Bundelkhand region of Madhya Pradesh & Uttar Pradesh, as also for Extension Renovation Modernisation (ERM) projects and also for States with net irrigation below national average.

#### **SURFACE MINOR IRRIGATION (SMI) SCHEMES**

Under the SMI scheme, since 2015-16, 7304 schemes are ongoing with an estimated cost of Rs. 15,506 crores. CA of Rs. 5028.73 crores have been released to States upto November, 2024. Further, 3,160 schemes have been reported to be completed upto November, 2024. Target irrigation potential creation of these schemes is 11.50 lakh ha and out of this, 3.546 lakh ha reported to have been created till November, 2024. In the current financial year, Rs. 337.07 crore has been released to SMI schemes till November, 2024.

#### **REPAIR, RENOVATION & RESTORATION (RRR) OF WATER BODIES**

Under the RRR of Water Bodies scheme, since 2015-16, 3,075 schemes are ongoing with an estimated cost of Rs. 2,835 crores. CA of Rs. 467.81 crores have been released to States upto November, 2024. Further, 1,661 water bodies have been reported to

be completed upto November, 2024. Target irrigation potential restoration of these schemes is 2.41 lakh ha and out of this, 1.093 lakh ha reported to be restored till November, 2024. In the current financial year, Rs. 42.33 crore has been released under RRR of Water Bodies schemes till November, 2024.

#### **SPECIAL PACKAGE FOR COMPLETION OF IRRIGATION PROJECTS TO ADDRESS AGRARIAN DISTRESS IN VIDARBHA, MARATHWADA AND OTHER CHRONICALLY DROUGHT PRONE AREAS OF REST OF MAHARASHTRA**

In 2018, the Government of India sanctioned a special package to complete irrigation projects aimed at addressing agrarian distress in Vidarbha, Marathwada, and other chronically drought-prone areas of the rest of Maharashtra. This package includes 8 Major and Medium Irrigation (MMI) Projects and 83 Surface Minor Irrigation (SMI) Projects. As of April 1, 2018, the total estimated balance cost for these projects stood at Rs. 13,651.61 crores. the Central Government is to provide Central Assistance (CA) at 25% of the balance cost of these 91 projects as on 01.04.2018, as well as 25% reimbursement for the expenditure incurred during 2017-18. The completion of these schemes is expected to create an additional irrigation potential of 3.77 lakh hectares in the affected regions.

Central assistance of Rs. 2,838 crores have been provided under this package, allocated across various fiscal years: Rs. 500 crores in 2018-19, Rs. 300 crores in 2019-20, Rs. 400 crores in 2020-21, Rs. 725 crores in 2021-22, Rs. 213.01 crores in 2022-23, and Rs. 699.99 crores in 2023-24.

S. No.	Financial Year	CA Released under Special Package to MH		
		CA	No. of Projects & CA Released (in crores.)	
			SMI	MMI
1	2018-19	500	56(Rs.170.57)	07(Rs.329.43)
2	2019-20	300	72(Rs.166.69)	06(Rs.133.31)
3	2020-21	400	53(Rs.97.48)	06(Rs.302.52)
4	2021-22	725	64(Rs.79.23)	08(Rs.645.76)
5	2022-23	213.01	51(Rs. 42.97)	07(Rs.170.04 )
6	2023-24	699.99	22(Rs. 68.37)	05(Rs. 631.62)
	<b>Total</b>	<b>2838</b>	<b>625.33</b>	<b>2212.68</b>

**Status of Projects:** Under the Special Package, 53 SMI & 2 MMI projects have been reported to be completed and 1,61,000 ha of irrigation potential has been created from 2018-19 onwards.

### NATIONAL PROJECTS

Government of India had approved a scheme of National Projects (NPs) to be implemented during XI Plan with a view to expedite completion of identified NPs for the benefit of the people. Eligibility criteria for inclusion of a project under NP scheme of DoWR, RD&GR, is as under:

- International project where usage of water in India is required by a treaty or where planning and early completion of the project is necessary in the interest of the country; or
- Inter-State projects which are dragging on due to non-resolution in inter-State issues relating to sharing of costs, rehabilitation, aspects of power production, etc. including river inter-linking projects; or
- Intra-State projects with additional irrigation potential of more than

two lakh hectare and with no dispute regarding sharing of water and where hydrology is established; or

- Extension, Renovation and Modernization (ERM) projects envisaging extension/ restoration of irrigation potential of 2 lakh hectare.

A total of 16 projects have been declared as NPs so far, and were to be taken up for execution after the concerned States obtain techno-economic clearance, other statutory clearances and investment clearance. These projects are at various stages of their implementation. These sixteen projects are: Gosikhurd Irrigation Project, Shahpurkandi Dam Project, Teesta Barrage Project, Saryu Nahar Pariyojna, Polavaram Irrigation Project, Lakhwar Multipurpose Project, Renukaji Dam Project, Kishau Multipurpose Project, Ujh Multipurpose Project, Ken Betwa Link Project, Kulsi Dam Project, Noa-Dihing Dam Project, Bursar Hydro Electric Project,

Gyspa Hydro Electric Project, 2nd Ravi Vyas Link Project and Upper Siang Project.

Out of these, seven projects, namely Polavaram project of Andhra Pradesh, Saryu Nahar Pariyojana of Uttar Pradesh, Gosikhurd Irrigation Project of Maharashtra, Teesta Barrage Project of West Bengal, Shahpurkandi Dam Project of Punjab, Lakhwar Multipurpose Project of Uttarakhand and Renukaji Dam Project of Himachal Pradesh have been taken up for execution. Gosikhurd, Saryu Nahar Pariyojna, Lakhwar and Renukaji are included under PMKSY. One national project under AIBP-PMKSY i.e Saryu Nahar, Uttar Pradesh has been completed.

#### **Polavaram Irrigation Project:**

The Polavaram Irrigation Project (PIP) is a multi-purpose irrigation project located on the river Godavari near Ramayyapeta village in the Polavaram mandal, about 42 km upstream of the Sir Arthur Cotton Barrage. This location is where the river emerges out of the last range of the Eastern Ghats and enters the plains in the West Godavari District of Andhra Pradesh State. The project envisions the construction of a dam to create the ultimate irrigation potential.

The project has been declared a national project as per Section 90 of the Andhra Pradesh Reorganisation Act, 2014. The Central Government is funding 100% of the remaining cost of the irrigation component only, for the period starting from 01.04.2014. The Government of Andhra Pradesh is executing the irrigation component of the project on behalf of the Government of India. The power component of the project is being executed by APGENCO.

The Cabinet in its meeting held on 28.08.2024 has approved providing an additional funding up to Rs. 12,157 crores for completion of Polavaram Irrigation Project, Andhra Pradesh with water storage till minimum draw down level. Central assistance Rs. 2340.00 crore has been released after cabinet approval.

#### **Saryu National Project:**

Saryu Nahar Pariyojana is one of the 99 priority projects under PMKSY (AIBP) implemented in three phases. Main diversion structure and link channels are completed. Component of the project under the scheme of National Projects are some of the balance canal works of Phase-II and Phase – III, mainly construction of Rapti Main Canal and its complete distribution system.

The project as a whole, envisages irrigation potential of 14.04 lakh ha out of which 4.73 lakh ha is to be created under the scheme of National Projects. Total CA released to Saryu National Project is Rs 2,257.53 crore. Total irrigation potential 11.73 lakh ha has been created.

#### **Gosikhurd National Project:**

The Gosikhurd Irrigation Project is one of the 99 priority projects under PMKSY (AIBP) and envisages the construction of an earth dam across the Wainganga River in Bhandara district of Maharashtra. The project aims to provide irrigation benefits to 2,50,800 hectares (ultimate irrigation potential), generate 24 MW of power, and supply 100 million cubic meters (MCM) of water for the thermal power station of NTPC at Mauda (Bhandara). The total Central Assistance



(CA) released under this National Project is Rs. 3,881.28 crores. Irrigation potential created 1.67 lakh ha upto March, 2024.

### **Shahpurkandi Dam:**

The work on the Shahpurkandi Dam project was suspended since 30.08.2014 following a dispute between the States of Jammu & Kashmir and Punjab. However, an agreement was reached between Punjab and Jammu & Kashmir States under the aegis of the erstwhile Ministry of Water Resources at New Delhi on 8th September 2018 to resume the works of Shahpurkandi Dam project in Punjab on the river Ravi. Work has been resumed w.e.f. 1st November 2018.

The Government of India has approved the funding for the "Implementation of Shahpurkandi Dam (National Project) on River Ravi in Punjab State" with an estimated cost of Rs. 2,715.70 crores. The irrigation component, constituting 28.61% of the approved cost, and the power component, constituting 71.39% of the approved cost, amount to Rs. 776.96 crores and Rs. 1,938.74 crores, respectively. Central Assistance (CA) of Rs. 485.38 crores would be provided for the balance works portion of the irrigation component of the said project amounting to Rs. 564.632 crores.

After the completion of the project, water would be made available to the State of Punjab and the Union Territory of Jammu & Kashmir to provide irrigation in 5,000 hectares and 32,173 hectares, respectively. In addition, water being released to provide irrigation in 1.18 lakh hectares of area under the UBDC system in Punjab at present would be regulated

efficiently, and irrigation in the area would be benefitted. Out of the total CA of Rs. 485.38 crores, CA of Rs. 364.75 crores have been released by the Government of India till March 2024. Shahpur kandi Dam has been completed & work of power house likely to be completed by Oct, 2025.

### **Teesta Barrage National Project:**

The Teesta Development Plan consists of three phases. The envisaged benefits include irrigation benefit to a Culturable Command Area (CCA) of 922 thousand hectares in Phase-I, 1,000 MW hydropower in Phase-II, and a navigation link between Brahmaputra and Ganga in Phase-III. The sub-stage – I of the Stage – I of Phase – I (under the National Project), upon completion, would create irrigation potential of 527 thousand hectares over a CCA of 342 thousand hectares. The estimated cost of the National Project is Rs. 2,988.61 crores (at 2008 price level). The Government of India has released Central Assistance (CA) of Rs. 178.20 crores under the scheme of National Projects. No progress of work after 2014 due to land acquisition.

### **Lakhwar Multipurpose Project:**

For the implementation of the Lakhwar Multipurpose Project in the upper Yamuna basin, an agreement among the States of Himachal Pradesh, Uttarakhand, Uttar Pradesh, Haryana, National Capital Territory of Delhi, and Rajasthan was signed by the Hon'ble Chief Ministers of the co-basin States on 28.08.2018. The project was accepted at a revised cost estimate of Rs. 5,747.17 crores (PL July, 2018) in the 141st TAC (Technical Advisory Committee) meeting held on 11.02.2019. The Ministry

of Environment, Forest and Climate Change (MoEF&CC) via a letter dated 02.02.2021, has issued environmental clearance to the project. Funding for the project has been approved during 2021-22, and the project has been included under PMKSY. A Central Assistance (CA) of Rs. 204.14 crore has been released to the project till March, 2024.

### **Renukaji Dam Project:**

For the implementation of the Renukaji Dam National Project in the upper Yamuna basin, an agreement among the States of Himachal Pradesh, Uttarakhand, Uttar Pradesh, Haryana, National Capital Territory of Delhi, and Rajasthan was signed by the Hon'ble Chief Ministers of the co-basin States on 11.01.2019. The revised estimated cost of Rs. 6,946.99 crores (PL October, 2018) was accepted by the Advisory Committee in its 143rd meeting held on 09.12.2019. Investment clearance was accorded to the project in the 13th meeting of the Investment Clearance Committee of DoWR, RD&GR held on 07.08.2020. Funding for the project has been approved during 2021-22, and the project has been included under PMKSY. A total CA (Central Assistance) of Rs. 1909.96 crores have been released to the project till March, 2024.

### **Relining of Sirhind Feeder and Relining of Rajasthan Feeder of Punjab**

The funding for the relining of Sirhind Feeder and Rajasthan Feeder of Punjab was approved on 26.09.2018. Sirhind and Rajasthan feeders take off upstream of Harike headworks and flow through Punjab before crossing over to

Rajasthan. The twin canals run parallel, have a common bank, and were constructed in the 1960s as lined (brick) channels to convey water to command areas in Punjab and Rajasthan. The Rajasthan feeder is exclusively meant for providing water to Indira Gandhi Nahar Project, which serves the command lying in western Rajasthan. Seven districts of western Rajasthan, including major cities like Jodhpur, Bikaner, and Jaisalmer, are totally dependent on Indira Gandhi Nahar Project for drinking water. Besides, it also supplies water to power plants at Suratgarh, Ram Garh, etc. Sirhind Feeder serves areas in both Punjab and Rajasthan.

The relining of Rajasthan feeder would save 560 cusecs of water, which would stabilize/improve irrigation in 98,739 hectares in Rajasthan to benefit the entire western Rajasthan. Relining of Sirhind feeder would save 256 cusecs of water, which would stabilize/improve irrigation in 20,740 hectares of area in Rajasthan and 48,356 hectares in Punjab and address the problem of water-logging in 84,800 hectares of land in Muktsar, Faridkot, and Ferozpur districts in southwest Punjab. In addition to Rs. 156 crores of central assistance released earlier for these projects. Central assistance of Rs. 626.51 crores have been released so far. Govt. of Punjab has intimated that the works of Relining of Sirhind Feeder of approximately 89.61 km length out of 100 Km is completed. Similarly, the works of the project for relining of Rajasthan Feeder of approximately 80 km length out of 96.62 km is completed.



### 3.2 IRRIGATION CENSUS SCHEME

“Rationalization of Minor Irrigation Statistics (RMIS)” was launched in 1987-88 in the DoWR, RD & GR, MoJS, with 100% central assistance to the States/ UTs. In 2017-18, the scheme was renamed as “Irrigation Census” to build up a comprehensive and reliable database in the Minor Irrigation (MI) sector for effective planning and policy making.

MI censuses are a rich source of information on India's ground and surface water sector. In the MI censuses detailed information on various aspects/ parameters like irrigation sources (dug well, shallow, medium and deep tube well, surface flow and surface lift schemes), irrigation potential created, potential utilized, ownership, holding size of land by the owner, devices used for lifting water, source of energy, energy conserving devices such as sprinkler and drip irrigation, use of non-conventional energy sources such as solar pumps, windmills etc. is collected.

Detailed database on minor irrigation works in the country has been generated through five censuses carried out under the scheme so far with reference years 1986-87, 1993-94, 2000-01, 2006-07 and 2013-14. A separate dashboard was created for easy dissemination of Fifth Minor Irrigation Census data.

The scope of Irrigation Census was expanded to include census of water bodies with 100% central assistance. The First Census of Water Bodies was launched to collect information on all important aspects on the subject including their size, condition, status of encroachments, use, storage capacity, status of filling up of storage etc. in the States/ UTs in

convergence with Sixth Minor Irrigation Census (with reference year 2017-18). The 6th MI Census and first Census of Water Bodies has been completed successfully and reports of both the censuses have been uploaded on the website of the Ministry. The results of first Census of Water Bodies has also been disseminated through Open Government Data (OGD) platform and Bhuvan portal.

The continuation of the Irrigation Census scheme has been approved for a period of five years from 2021-22 to 2025-26 with a total outlay of Rs.237 crores for conducting 7th MI Census and 2nd Census of water bodies after completion of 6th MI Census and 1st Census of water bodies. Further, it is also proposed to conduct 1st census of Major and Medium Irrigation (MMI) projects and 1st census of Springs also under 'Irrigation Census' scheme.

The Steering Committee constituted under the Chairmanship of Secretary (DoWR, RD & GR) to guide and advice the conduct of censuses has finalised the schedules/ instruction manuals/concept & definitions for data collection and operational guidelines for the conduct of forthcoming censuses in consultation with State Governments.

All India workshop for launch of 7th MI census, 2nd Census of Water bodies, 1st Census of MMI projects and 1st Census of Springs was organised by the Department on 17.08.2023. Officers from Central Ministries and officers of Nodal Departments nominated from State/UTs for each of the censuses participated in the deliberations. NIC has developed a mobile/web application for these censuses, with pilot testing successfully conducted in Uttarakhand, Himachal

Pradesh, Odisha, and Meghalaya from 14-26 October 2024.

Six regional workshops for training of trainers for upcoming censuses will be conducted at regional centers in Tripura, Karnataka, Uttar Pradesh, Haryana, Rajasthan, and West Bengal from 3rd December, 2024, to 17th January, 2025.

### 3.3 NATIONAL MISSION FOR CLEAN GANGA (NMCG)

“Namami Gange” was launched with the aim of integrating previous and currently ongoing initiatives in holistic manner with a basin approach. It has been approved as a Central Sector Scheme in 2015 and includes diverse set of interventions such as pollution abatement measures to tackle different sources of pollution such as municipal sewage, industrial effluents, municipal solid waste, non-point sources of pollution and interventions for improving ecological flows, biodiversity conservation, afforestation, improving amenities and sanitation at riverbanks, capacity building, research & monitoring, public awareness. The programme was subsequently extended up to 31st March 2026 with a budgetary outlay of Rs. 22,500 crores from April 2021 to March 2026. The five main pillars of the program are Nirmal Ganga, Aviral Ganga, Jan Ganga, Gyan Ganga and Arth Ganga.



#### **Pollution Abatement (Nirmal Ganga):**

Till February 2024, a total of 201 sewerage infrastructure projects (including one Modular STPs Decentralized) have been sanctioned in the Ganga Basin for the creation of 6,196.19 MLD sewage treatment capacity and the laying of 5,282 km sewer network at an estimated cost of Rs. 31,717.30 Cr. Out of these, 116 sewerage projects have been successfully completed, resulting in the creation and rehabilitation of 3,110.55 MLD of sewage treatment capacity and the laying of 4,507.27 kilometers of sewer network with an expenditure of Rs. 14,652.16 Cr.

#### **Industrial Pollution Management:**

NMCG has identified the industrial clusters for promoting the abatement of pollution and support financially to sectors like tannery, textile effluent and others. National Mission for Clean Ganga (NMCG) till date has sanctioned 5 industrial projects of Common Effluent Treatment Plants (CETPs) i.e. Jajmau CETP (20 MLD), Banther CETP (4.5 MLD), Unnao CETP (2.65 MLD), Mathura CETP (6.25 MLD) and Gorakhpur CETP (7.5 MLD). Out of this, Mathura CETP (6.5 MLD) project is completed, and the plant is in the operational stage with 50 % recycling to its member's units. Construction of 20 MLD CETP at Jajmau tannery cluster at Kanpur is completed and inaugurated by the Hon'ble Prime Minister on 30th December 2023.

**Water Quality Monitoring:** Water quality monitoring of river Ganga is carried out manually as well as using sensors based real time system. Central Pollution Control Board (CPCB) is monitoring water quality at 97 locations through respective State Pollution Control Boards (SPCBs) while at

76 Stations using Real Time Water Quality Monitoring Systems and collected data is compiled at CPCB.

**Ecology and Flow (Aviral Ganga):** E-Flow: Central Government issued an Order vide gazette notification number S.O. 5195 (E), dated the 09.10.2018 specifying the minimum environmental flows to be maintained in river Ganga in the identified stretches.

**Rural Sanitation:** Department of Drinking Water and Sanitation (DoDWS) had identified 4,507 villages situated in the five Ganga States. Rs.829 crores has been released to the DoDWS for construction of around 14 lakhs independent household toilets in these Ganga villages all of which have been declared ODF. Under the ODF plus intervention of the Ministry, NMCG has released Rs.124 crores for undertaking solid and liquid waste management in the Ganga villages to address the problem of polluted water from the villages flowing into the river and also to improve the sanitation in the villages.

**Biodiversity:** One of NMCG's long term visions for Ganga rejuvenation is to restore the viable population of selected endemic and endangered biodiversity of the river, so that they occupy their full historical range and fulfil their role in maintaining the integrity of the Ganga river ecosystems.

**Afforestation:** A scientific plan for afforestation along the Ganga was made in 2015-16 with the help of the Forest Research Institute (FRI)/ Indian Council of Forestry Research and Education (ICFRE), which is being implemented throughout the States.

This DPR on "Forestry Interventions for Ganga" prepared by Forest Research Institute (FRI), Dehradun provides for site-specific plantation along the banks of river Ganga in a total area of 1,34,104 hectares in five states of Uttarakhand, Uttar Pradesh, Bihar, Jharkhand and West Bengal with an estimated cost of Rs. 2,293.73 crores.

NMCG under the Namami Gange programme is implementing a forestry intervention project in the Ganga River basin as per the DPR from the year 2016-17 onwards. Till date, 30,071-hectare plantation has so far been carried out, for which an expenditure of Rs. 368 cr has been incurred by the State Forest Departments of Uttarakhand, Uttar Pradesh, Bihar, Jharkhand, and West Bengal

**Wetland Conservation:** Wetland conservation is also an integral component of 'Namami Gange'. There are 23 Ramsar sites in the Ganga Basin, out of a total of 75 Ramsar sites in India. Under the Namami Gange programme, 4 projects have been sanctioned for the conservation of wetlands at a cost of Rs.12.54 Cr.

**Research, Policy and Knowledge Management (Gyan Ganga):** Namami Ganga is working to facilitate diversified research, scientific mapping, studies, and evidence-based policy formulation (Gyan Ganga). This includes various projects comprising LiDAR Mapping, GIS & Remote Sensing, research, and knowledge development under Ganga Knowledge Centre, etc.

**People River Connect (Jan Ganga):** Developments of River Front Development

(RFD), Ghats & Crematoria and kunds/ponds rejuvenations works in select cities have been taken up. 238 ghats and promenade, 63 crematoria and 9 kunds/ ponds rejuvenation have been sanctioned, out of which 208 ghats, 53 crematoria and 9 kunds have been constructed. Additionally, NMCG engages with several relevant stakeholders from different geographies and regions to promote the river rejuvenation and protection.

### **River People Connect by Boosting Economy and Livelihood (Arth Ganga) :**

Over the years, concerted efforts made by NMCG are beginning to find success in restoring the pristine glory of the river. One such effort is the Arth-Ganga which was envisioned by the Hon'ble Prime Minister in 2019, during the National Ganga Council meeting. Arth Ganga pillar is based on the symbiotic relationship between nature and society and aims to strengthen the people-river connection. Several multi-sectoral interventions ranging from the promotion of natural farming to livelihood interventions, are to be achieved through synergies at different institutional levels, coupled with the adoption of decentralized governance practices. Arth Ganga strives to improve the quality of life of people in the Ganga Basin through sustainable economic development and strengthened people-river connect.

- NMCG has developed an initial concept note on Arth Ganga and shared it with various Ministries & Departments.
- NITI Aayog has constituted a High-Powered Group co-chaired by the

VC NITI Aayog and Union Minister of Jal Shakti for Developing the Sustainable Economic Development Model Based on River Ganga on 10.06.2020. Three meetings of the group have been held till date. (26<sup>th</sup> May 2020, 19<sup>th</sup> October 2020 & 5<sup>th</sup> April 2022);

- IIIM-IIT consortium has developed an Arth Ganga Framework for 53 districts. The reports have been shared with the concerned District Magistrate.

The progress of Arth Ganga framework is also being closely reviewed by the Empowered Task Force set up for coordinating Ganga-related matters between various Ministries and State governments and headed by the Hon'ble Union Jal Shakti Minister.

### **Six Verticals for Intervention under Arth Ganga**

#### **1. Zero Budget Natural Farming**

- a. Chemical free ZBNF along the length of the river
- b. Doubling farmer's income & generating "more income per drop"
- c. "Gobar-Dhan"- for farmers & keeping pollution off
- d. Promotion of brand Ganga

#### **2. Monetisation of Reuse of Sludge & Wastewater**

- a. Reuse of treated wastewater by ULBs for revenue generation
- b. Conversion of sludge into usable products such as manure, pavers, bricks,



### 3. **Livelihood Generation Opportunities**

- a. Ghat Main Haat' for self-sustaining Ganga Ghats
- b. Promotion of local products of Ganga cities along riverbanks
- c. Capacity building trainings of people in the Ganga Basin.
- d. Promotion of afforestation activities like Ayurveda & medicinal plantation (Rudraksh)

### 4. **Culture Heritage & Tourism**

- a. Promotion of yoga and wellness, medical tourism, adventure tourism, eco-tourism, etc.
- b. Aartis to enhance cultural connection with the river.

### 5. **Public Participation**

- a. To increase public participation with river conservation effort.
- b. Increased synergies with various programs

### 6. **Institutional Building**

- a. Enhancement of capacities, especially local administration for better water governance.
- b. Sustenance of the projects post asset handover.
- c. Mandated monthly minutes' meetings of DGCs.

### 3.4 **ATAL BHUJAL YOJANA (ATAL JAL)**

Atal Bhujal Yojana (ATAL JAL) is being implemented since April, 2020 in 8,203 water stressed Gram Panchayats of 229 administrative blocks/ Talukas in 80 districts of seven States, viz. Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan and Uttar Pradesh for five years. The selected States account for about 37% of the total number of water-stressed (over-exploited, critical and semi-critical) blocks in India.

#### **COMPONENTS OF THE SCHEME**

- Institutional Strengthening & Capacity Building component (Rs. 1,400 crore) for strengthening institutional arrangements by providing strong data base, scientific approach and community participation in the States to enable them sustainably manage their ground water resources.
- Incentive Component (Rs. 4,600 crore) for incentivizing the States for convergence amongst various schemes of the Central and State Governments and achievement of pre-defined results as a measure of improved ground water management and consequent improvement in ground water scenario.

Allocation of funds under the Institutional Strengthening Component shall be used by the States for improving their institutional framework for ground water management through activities such as engagement of domain experts &

District Implementation Partners (DIPs), procurement of equipment, up-gradation of laboratories and capacity building activities.

Funds under the Incentive Component shall be disbursed to the States on achievement of pre-defined targets namely i) public disclosure of ground water related information and reports, ii) preparation of community-led Water Security Plans (WSPs), iii) public financing of approved Water Security Plans through convergence of ongoing/new schemes, iv) adoption of practices for efficient water use and v) improvement in ground water conditions, evidenced by arrest in the decline of water levels in observation wells. The incentives shall be used by the States for interventions that improve the sustainability of ground water resources.

The scheme is expected to result in multiple benefits including i) improvements in sustainability of ground water resource in target areas, ii) positive contributions to the sustainability component of Jal Jeevan Mission, and to the goal of doubling farmers' income, mainly through convergence among various on-going schemes and iii) Inculcation of behavioural changes in the community to foster improved ground water management. The participatory approach envisaged under this scheme is crucial for addressing groundwater challenges in the long run.

#### **Achievements during 2024-25:**

During the year 2024-25, after verification from Third Party Government Verification Agency (TPGVA) for

Disbursement Linked Indicator DLI-3 and DLI-4, an amount of Rs.637.61 crore has been approved to the States based upon their achievement under DLIs. Further, an amount of Rs.67.75 crore has been released to the States under Institutional Strengthening and Capacity Building component.

All Water Budget and Water Security Plans (WSPs) have been updated & submitted. The purpose of the water budget is to assess surface and groundwater resources and identify current and future needs as a basis for planning. WSPs are prepared on the basis of water budgets. These plans specify investments and interventions to meet the anticipated demands while ensuring sustainable water use. WSPs are customized to meet the specific challenges in the GP and include any water-related investments/ interventions that serve the purpose. Water Budget as well as WSPs are prepared by the GPs with the support of the Water Management Committees (WMCs)/Village Water & Sanitation Committees (VWSCs), aided by the District Implementation Partners engaged. Implementations of the interventions proposed under WSP are being done in the field with active involvement of communities through convergence of various Central/ State Government schemes by concerned line Departments.

Convergence expenditure of Rs. 912 crores for implementation of demand & supply side activities as proposed in the WSPs was achieved and an area of 1.28 lakh Ha was brought under efficient water use practices. This data is for the period 1st April 2024 to 30th September 2024.



As Atal Bhujal Yojana is a scheme aimed primarily at inculcating behavioral changes among the stakeholders to facilitate judicious use of ground water, training and capacity building have a vital role to play in ensuring its success. During the financial year 2024-2025, more than 27,656 trainings have been held at the GP level till 30 November 2024. Further, several State level workshops were conducted in order to guide and hand hold State/ District/ GP level authorities and DIPs. Also, in order to provide better understanding of the innovative practices available to increase water use efficiency, demonstration visits have been organized wherein farmers are exposed to these practices on field.

Creation of awareness among the general public about the program objectives and creation of an enabling environment for scheme implementation at various levels through information, education and communication (IEC) is an important activity under Atal Bhujal Yojana. Awareness campaigns have been undertaken using different media of mass communication. The thrust of the campaign is at the GP level, where communication tools such as nukkad nataks (street plays), audio-visual clips, wall-writing, display boards, pamphlets and cable TV are being extensively used.

A meeting of the National Inter-Departmental Steering Committee was held on 7th June, 2024 under the chairmanship of Secretary, DoWR, RD & GR with active participation from relevant line Ministries/Departments of GOI and Atal Jal States.

### 3.5 FLOOD FORECASTING (FF)

CWC provides flood forecasting service at 340 stations, of which 200 are level forecasting stations on major rivers and 140 are inflow forecasting stations on major dams/barrages. Overall, 1,121 automatic data collection stations with sensors and satellite transmission system, three earth receiving stations viz, New Delhi, Jaipur and Burla and 27 modelling centres equipped with latest computer systems for analysis of data, flood forecast formulation and its dissemination to concerned agencies expeditiously have been installed on various river basins.

During flood season, CWC operates the Central Flood Control Room on 24x7 basis at its headquarter in New Delhi and 36 Divisional Flood Control Rooms spread throughout the country for monitoring flood situation. On an average, about 10,000 forecasts are issued during flood season every year by the CWC. Normally, these forecasts are issued 6 to 30 hours in advance, depending upon the river terrain and location of the flood forecasting sites and their base stations. In addition to conventional flood forecasting techniques, mathematical model forecasting based on rainfall-run off methodology is being used for some areas. This has enabled CWC to issue 7-day advance flood advisory.

Automated online 7-day flood advisory for all the level and inflow forecasting stations is maintained. "Flood Situation for next seven days" in respect of stations likely to be above warning level has been added in the "Daily Flood Situation Report cum Advisory" based on the 7-day advisory.

Since 2014, CWC has been utilising web-based software “e- SWIS” for entry of hydrological data on hourly basis, analysis of data and dissemination of flood forecasts. From the year 2020 onwards, web-based software WIMS is used by all divisions of CWC for entering data on hourly basis, analysis of data and dissemination of flood forecasts.

During the flood season 2024 (1<sup>st</sup> April to 30<sup>th</sup> November 2024), a total of 10415 flood forecasts (7093 level forecasts and 3322 inflow forecasts) were issued, out of which 9947 (95.5%) forecasts were found within the accuracy limit ( $\pm 0.15\text{m}$  for level forecast and  $\pm 20\%$  for inflow forecast).

### 3.6 FLOOD MANAGEMENT & BORDER AREAS PROGRAMME

The States /UTs are provided promotional financial central assistance through Flood Management Programme (FMP) and River Management Activities & Works related to Border Areas (RMBA) schemes of Department, which have been merged into a single scheme Flood Management and Border Areas Programme (FMBAP). The continuation of FMBAP scheme for the period 2021-22 to 2025-26 has been approved by the Union Cabinet on 26th February, 2024 with an outlay of Rs. 4,100 crores for the period 2021-22 to 2025-26, including Rs. 2,940 crores under FMP component and Rs. 1,160 crores under RMBA component. Grant-in-aid to the tune of Rs. 2,262.94 crores under FMP component and Rs. 695.12 crore under RMBA component of FMBAP has been released to States/UTs during the period April, 2017 to March, 2024.

### FLOOD MANAGEMENT PROGRAMME

During XIth Plan, Government of India launched “Flood Management Programme for providing central assistance to the State Governments for undertaking the works related to river management, flood control, anti-erosion, drainage development, flood proofing, restoration of damaged flood management works and anti-sea erosion works which has been continued as component of FMBAP. So far central assistance amounting to Rs. 7136 crores upto November, 2024 has been released to Union Territories/ State Governments under FMP component and Rs. 695.12 crore under RMBA component of FMBAP. The 427 projects completed under this programme have given protection to an area of around 5.04 Mha and protected a population of 53.69 million. The details of central assistance released and area protected /population benefitted are given in *Annexure-VII* and *Annexure-VIII* respectively.

### RIVER MANAGEMENT ACTIVITIES AND WORKS RELATED TO BORDER AREAS

The above central sector scheme was approved for implementation during XIIth Plan which has been continued. The scheme has three components viz.,

➤ **Hydrological observations and flood forecasting on common border rivers with neighboring countries. Activities under this component include:**

- **Hydrological observations on rivers originating in Bhutan:** A comprehensive scheme for establishment of hydro-

- meteorological and flood forecasting network on rivers common to India and Bhutan is in operation for transmission of real time data to control rooms in India. The network of 36 Hydro-meteorological/meteorological stations located in Bhutan is being maintained by the Royal Government of Bhutan with funding from India. The data received from these stations are utilized in India by the Central Water Commission for formulating flood forecasts.
- **Joint observations on rivers common to India and Bangladesh and cooperation with neighbouring countries:** During lean season (January to May), the Ganga water is shared at Farakka with Bangladesh, as per the provisions of the Treaty signed between the two countries in 1996. The hydrological observations are being conducted jointly at Farakka (India) and Hardinge Bridge (Bangladesh) every year during the lean season.
  - **Hydrological Data sharing by China:** During every monsoon, hydrological data of three stations (Nugesha, Yangqen and Nuxia) on Brahmaputra and station (Tsada) on Sutlej is provided by China to India as per MoUs (under process of renewal) and cost of maintenance of these stations is borne by India. The information provided by China is utilized by India in flood forecasting and advance warning.
  - **Sharing of Ganga/ Ganges Waters at Farakka:** As per the Treaty, the Ganga/Ganges waters is being shared at Farakka (which is the last control structure on river Ganga in India) during lean period, from 1st January to 31st May every year, on 10-daily basis as per the formula provided in the Treaty to Bangladesh.
  - **Investigations of Water Resources projects in neighbouring countries:** Activities/projects under this component are:
    - **Pancheshwar Multipurpose Project:** Pancheshwar Multipurpose Project is proposed along the India-Nepal border as per the provisions of the Mahakali Treaty signed in 1996 between India and Nepal for in targeted development to river Mahakali (Sarada in India). The DPR of India-Nepal Pancheshwar Multipurpose Project is under finalization through discussions between Government of India and Government of Nepal.
    - **Surveys & Investigation of Sapta Kosi High Dam and Sun Kosi Storage cum Diversion Scheme:** As per the bilateral agreement, the Joint Project Office–Sapta Kosi & Sun Kosi Investigation (JPO-SKSKI)–is carrying out field investigations for Sapta Kosi High Dam and Sun Kosi Storage-cum-Diversion Scheme for preparation of a comprehensive DPR. Regular meetings through established

bilateral mechanisms between the Government of India & Nepal are held for reviewing the progress of various works.

➤ **Grant-in-Aid to States/ UTs for flood management/ anti-sea erosion:**

The scheme provides for 100% grant to select border States and UTs for river management works. Grant-in-aid amounting to Rs. 695.12 crore has been released under RMBA component of FMBAP to States/ UTs during the period April, 2017 to March, 2024.

**NORTH KOEL RESERVOIR PROJECT:**

DoWR, RD & GR has taken up the long pending project for completion of balance works of North Koel Reservoir Project, Bihar and Jharkhand. The balance works of North Koel Reservoir Project have been approved by the Union Cabinet at revised cost estimated of Rs. 2430.76 crore on 4th October, 2023. Project will provide irrigation benefit to 1,14,021 hectares of land annually in drought prone areas of Aurangabad and Gaya districts of Bihar and Palamau and Garhwa districts of Jharkhand. It also has the provision for supply of 44 MCM water for drinking and industrial water supply. Execution of balance works of the project on turnkey basis by M/s WAPCOS Ltd as Project Management Consultant (PMC) has been approved. 10% works on dam & appurtenant, 100% works on Mohammadganj barrage, 86% works on left main canal and 22% works on right main canal of Jharkhand portion, 15% on Right Main Canal of Bihar Portion have been completed.

### 3.7 NATIONAL HYDROLOGY PROJECT (NHP)

National Hydrology Project (NHP), with support from the World Bank, envisages establishing a system for timely and reliable water resources data acquisition, storage, collation and management. It has Pan-India coverage with 48 Implementing Agencies (IAs) (including 9 from Central Government, 3 from River Basin Organisations, 36 from States/UTs). It will also provide tools and systems for informed decision making for water resources assessment, planning and management. The National Hydrology Project has been approved with an outlay of Rs. 3,679.77 crore as a Central Sector Scheme with 100% grant to State Governments and Central Implementing Agencies. The project has a duration of 8 years from 2016-17 to 2023-24. Department of Expenditure, Ministry of Finance has accorded approval for completion of the Project upto September 2025 within the same allocation.

**Objectives:**

- To improve the extent, quality, and accessibility of water resources information.
- To create decision support system for floods and basin level resource assessment/ planning.
- To strengthen the capacity of targeted water resources professionals and institutions in India.



### **Important activities taken up under NHP:**

Under the ongoing NHP, almost 22,960 Real Time Data Acquisition System (RTDAS) Surface Water and Ground Water stations have already been installed in the country. Besides, 46 Supervisory Control and Data Acquisition (SCADA) packages have been commissioned; almost 5667 piezometers constructed; 134 stationaries as well as mobile water quality labs have been developed/ procured/ maintained and put into operation; high-resolution DEMs, CORS network as well as Geoid model have also been developed. Furthermore, Bathymetric surveys of 464 important reservoirs of the country covering 162 BCM have also been taken up under NHP of which 373 studies have already been completed. Further 36 States Data Centres/ Regional data centres/ knowledge centres, etc. have been completed under the ongoing NHP. The need for development & maintainance of appropriate institutional framework both at the Central as well as State level for water resources information system intended for collection, collation and dissemination of the database was given shape in the ongoing NHP. As envisaged in the Cabinet note, the National Water Resources Informatics Centre (NWIC) has been created in 2018 and is now functional. Additionally, the formation of the State Water Informatics Centres for development of respective State Water Resources Information Systems was expedited in the ongoing NHP. Till date almost 19 SWICs have already been formed with a few more under process. The information system covering

hydrometeorological, hydrogeological, sedimentation, morphological and water quality data is also important in the context of various knowledge products being developed under NHP. Some of the important knowledge products / IT Applications / Digital Products / geospatial hydro products developed under NHP are as under:

- Early Flood Warning System/ Spatial Flood Early Warning System including flood inundation forecasting for the Ganga, Godavari, Tapi, Krishna- Bhima, Damodar, Periyar and Ravi basins.
- Development of Decision Support System for Near Real Time Integrated Reservoir Operation System for the Ganga basin.
- Physical based Mathematical Modelling for Estimation of Sediment rate and Sediment transport in 07 river basins i.e. Barak, Ramganga, Narmada, Cauvery, Kuttidipuzha, Peechi and Mangalam.
- Development, Maintenance and Updating of Decision Support System (Planning and Management).
- Glacial lake Outburst Flood (GLOF) Risk Assessment of Glacial Lakes in the Himalayan Region – Indus, Ganga, Brahmaputra river basins and the entire Himalayas.
- Development of Embankment Asset Management System/ Integrated Embankment Management System.

- Satellite based Evaporative Flux Estimation over Indian Region.
  - Sattellite data based Inputs for Irrigation Scheduling for a selected Irrigation Project Command Area – Narayanpur Command in Karnataka.
  - Generation of LIDAR DEM with Resolution of 1m and vertical accuracy of 50 cm and Orthorectified images of 71,204 sq km area.
  - Generation DEM with Resolution of 10m and vertical accuracy of 3-5m and creation and updating of geodatabase as appearing in 1:25000 topomaps of Survey of India for 8,35,000 sq km area.
  - Continuously Operating Reference Stations (CORS) Network in Uttar Pradesh and part of Uttrakhand
  - Generation of Geoid model for Uttar Pradesh and Uttrakhand.
  - Development of Spatial Snowmelt Runoff product in the Indian Himalayas.
  - Operational National Hydological modelling System.
  - Development of Web Enabled Hydrologic Modelling System in SWAT-HUMID
  - Operational Hydrological Drought Assessment.
  - Integrated River Basin and Shoreline Management Plan for Goa.
  - Alleviating Water Logging problem in critical areas of Dimapur, Nagaland.
  - Preparation of feasibility study report to alleviate flooding in Imphal city, Manipur arising out of drainage congestion.
  - Development of Decision Support System (DSS) for Management of Groundwater Resources of Maharashtra State.
  - Inventory of Ground Water Abstraction Structures in the State of Kerala.
  - Web GIS based Spring Inventory for Vulnerability assessment and hydrogeological investigation of selected springs for sustaining local water demand in Ravi catchment of Himachal Pradesh; Studies on occurrence, distribution, sustainability of natural springs for Rural Water Supply in Western Ghats; both developed by National Institute of Hydrology, Roorkee.
  - Preparation of Groundwater Management Plan for the state of Goa.
  - Water Audit and Management in Andhra Pradesh.
  - 40 Purpose Driven Studies (PDS) have been taken up by National Institute of Hydrology and various other Implementing Agencies of which around 28 have been completed till date.
- Further, under the capacity building component of NHP, a variety of trainings, webinars, workshops, and conferences are conducted. These trainings/ webinars/ workshops/ conferences are held both physically and virtually. About 1110



trainings/ seminars/ webinars/ conferences/ workshops have been conducted so far and around 27500 personnel have participated in the same.

Further, a web based Management Information System has also been developed for real time review and monitoring of physical and financial progress of various activities under NHP.

### **3.8 DAM REHABILITATION AND IMPROVEMENT PROJECT (DRIP)**

Dam Rehabilitation and Improvement Project (DRIP) is an externally aided project with financial assistance from the World Bank, targeting rehabilitation of some of the selected dams of the Country along with accompanying institutional strengthening component.

#### **Dam Rehabilitation and Improvement Project (Phase-II & III):**

Based on the success of DRIP Phase-I, Ministry of Jal Shakti initiated another externally funded scheme, DRIP Phase-II and Phase-III. The Union Cabinet has approved the Scheme on October 29, 2020.

The scheme has provision for rehabilitation of 736 dams located in 19 States (Andhra Pradesh, Chhattisgarh, Goa, Gujarat, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Odisha, Punjab, Rajasthan, Tamil Nadu, Telangana, Uttar Pradesh, Uttarakhand, West Bengal, and three Central Agencies (Central Water Commission, Bhakra Beas Management Board, and Damodar Valley Corporation). It is a State Sector Scheme with Central

component, with duration of 10 years, to be implemented in two Phases i.e. Phase-II and Phase-III, each of six years duration with an overlap of two years. The budget outlay is Rs 10,211 Cr (Phase II: Rs 5107 Cr; Phase III: Rs 5104 Cr) with rehabilitation provision of 736 dams. Out of this cost, Rs. 7,000 crore is an external loan and Rs. 3,211 crores would be borne by the respective participating States and the three Central agencies. The funding pattern of scheme is 80:20 (Special Category States), 70:30 (General Category States) and 50:50 (Central Agencies). The scheme also has provision of Central Grant of 90% of loan amount for special category States (Manipur, Meghalaya and Uttarakhand). The DRIP Phase-II and III Scheme is 10 years' duration, proposed to be implemented in two Phases, each of six-year duration with two years overlapping. Each Phase has external assistance of US\$ 500 M. The Phase-II of the scheme is being co-financed by World Bank and Asian Infrastructure Investment Bank (AIIB), with funding of US\$ 250 million each. The loan agreement by World Bank was signed on August 04, 2021 with 10 States (Gujarat, Kerala, MP, Maharashtra, Manipur, Meghalaya, Rajasthan, Odisha, Tamil Nadu, and Chhattisgarh) and became effective from 12th October, 2021. In addition to 10 States, four States (Uttarakhand, Uttar Pradesh, West Bengal and Karnataka) have been notified by World Bank for inclusion under this scheme in June 2022 and their loan declared effective in January 2023.

The loan agreement by AIIB was signed on 19th May, 2022 with 10 States (Gujarat, Kerala, MP, Maharashtra,

Manipur, Meghalaya, Rajasthan, Odisha, Tamil Nadu, and Chhattisgarh) and declared effective on 29th December, 2022 by AIIB. Inclusion of four States (Andhra Pradesh, Goa, Punjab, Telangana) and two Central Agencies (BBMB and DVC) is under process.

Important project achievements include approval of PSTs of 139 dams costing Rs 3715 Cr by the World Bank. The contract(s) amounting approximately Rs 2906 Cr have been awarded by various Implementing Agencies and an amount of Rs 1487 Cr spent as on 30.11.2024 on various project activities including dam rehabilitation, institutional strengthening and project management activities.

A Training program on the application of Rapid Risk Assessment tool, in association with the World Bank for the officers of the core group was held during April 22, 2024 – May 3, 2024 at

Auditorium, 1st floor, CWC Library Building, Near Sewa Bhawan, Sector-1, R K Puram, New Delhi. Total 66 officials nominated by CWC, NDSA and States / DRIP IAs for taking forward the assignment of carrying out the Rapid Risk Assessment of specified dams in the country.

A training on DRIP Ph-II & Ph-III was given to 40 officers of Punjab WRD on 12th June 2024 at Shahpur Kandi. Few topics were covered like Overview of DRIP Ph-II & Ph-III scheme; dam structural problems & their identification; Procurement procedures; Hydro-Mechanical structural problems; PST preparation; Financial Management of DRIP scheme etc. A three days training on DFR organized during 8th to 10th July, 2024, in which 22 participants from seven (7) states and CWC participated.



2<sup>nd</sup> meeting of National Level Steering Committee (NLSC) on DRIP Phase-II and III chaired by Secretary, DoWR, RD and GR held on 25.09.2024, New Delhi

The Management Information System (MIS-with 05 modules) was officially rolled out to SPMU on 14th August 2024. In this regard a virtual MIS demonstration was

organised on 14th August 2024 in which concerned officials of CPMU, SPMU, and EMC participated.



3rd meeting of Technical Committee of DRIP Phase II and III held on 18.10.2024 under the chairmanship of Member(D&R), CWC at Dehradun.

A World Bank (WB) and Asian Infrastructure Investment Bank (AIIB) team conducted the Mid-Term Review (MTR) mission for the Second Dam Rehabilitation and Improvement Project (DRIP-2) between January 17 and May 3, 2024. The mission held discussions with Implementing Agencies (IAs) in Bhubaneswar (Odisha), Surat (Gujarat), and New Delhi and undertook field visits to selected dams in Gujarat (Ukai) and Odisha (Hirakud, Rengali). The wrap-up meeting was held in New Delhi, chaired by Joint Secretary, D/o WR, RD&GR, Ministry of Jal Shakti (MoJS) and attended by Project Director, Central Water Commission (CWC), members of the Central Project Management Unit (CPMU), the Engineering and Management Consultant (EMC), and representatives of

all Implementing Agencies (IA). As part of the mission, a detailed exercise on the use of the rapid risk assessment tool for Indian dams, in compliance with the National Dam Safety Act 2021, was carried out between March 5 and May 3, 2024.

### 3.9 RESEARCH AND DEVELOPMENT (R&D)

Research & Development (R&D) activities under the scheme "Research and Development Programme in Water Sector and Implementation of National Water Mission" include basic and applied research, creation and up-gradation of research facilities and training of personnel implemented through the apex organizations of Department viz., CSMRS, CWPRS, NIH, and CWC. Also, the



Department provides financial assistance to IITs, Universities, research organizations, etc., for taking up research in water sector through three Indian National Committees (INCs) constituted by the Department and Standing Advisory Committee headed by Secretary (WR, RD & GR). The Indian National Committees (INCs) constituted by the Department

are Indian National Committee on Surface Water (INCSW), Indian National Committee on Groundwater (INCGW) and Indian National Committee on Climate Change (INCCC). The R&D Program has also helped in capacity building and creation of additional facilities and infrastructure at various Research institutes in India.

### Physical Achievements:

Particulars	Year							
	2021-22		2022-23		2023-24		2024-25 (till Nov, 2024)	
	Target	Achievement	Target	Achievement	Target	Achievement	Target	Achievement
Technical Reports Submitted (Nos.)	195	204	195	243	225	255	210	131
Research Paper Published (Nos.)	305	252	300	302	300	395	Deleted	Deleted
Training Programmes /Conferences Organized (Nos.)	40	48	60	71	80	68	75	57
Training of Personnel(Nos.)	-	1058	-	1703	-	1617	1000	1608

### Achievements of the research studies under the R&D scheme during the year:

- 13 new research schemes were recommended by Standing Advisory Committee and approved by Secretary (WR).
- The research project “Hydrogeological Assessment and Socio-Economic Implications of Depleting Water Resources in tourist towns of Uttarakhand” has been completed.
- The research project “Irrigation Efficiency Improvement through On-farm Water Management” has been completed.
- The research project “Dynamic Downscaling to study Climate Change Impacts on Water Resource in India” has been completed.

### 3.10 DEVELOPMENT OF WATER RESOURCES INFORMATION SYSTEM

Development of Water Resources Information System (DWRIS) Scheme, a

continuing scheme of 12th Five Year Plan, is under implementation during 2021-22 to 2025-26 with outlay of Rs. 715 crores, for creation of reliable and sound database for policy formulation, planning and designing of water resources projects, timely dissemination of flood forecast, etc.

#### **Achievements under DWRIS scheme:**

- 1730 Hydro-meteorological sites are being operated across the country covering 20 river basins for gauge, discharge, sediment, rainfall and related observations.
- 340 flood forecasting stations established. On an average 10,000 flood forecasts are being issued every year and are being disseminated to all stakeholders through various platforms including social media.
- 7-days advisory has been operationalized to enhance lead time.

### **3.11 NATIONAL RIVER CONSERVATION PLAN**

The National River Conservation Directorate, functioning under the Department of Water Resources, River Development & Ganga Rejuvenation, and Ministry of Jal Shakti is providing financial assistance to the State/UT Governments for conservation of rivers under the Centrally Sponsored Schemes of 'National River Conservation Plan (NRCP)'.

The Central Government took initiative of river pollution abatement programme with the launching of the Ganga Action Plan (GAP) in 1985. The Ganga Action Plan was expanded to cover

other rivers under National River Conservation Plan (NRCP) in the year 1995. The objective of NRCP is to improve the water quality of rivers, which are major water sources in the country, through implementation of pollution abatement works in various towns along identified polluted stretches of rivers on cost sharing basis between the Central & State Governments.

Schemes taken-up under NRCP programme are aimed primarily at reduction in pollution load in rivers. Apart from improvement in water quality of rivers leading to better public health and ecology of the river systems, the pollution abatement works taken up under NRCP help to improve the aesthetics & sanitation in the towns and in maintaining a cleaner environment.

As per OM No. O-11013/02/2015-CSS&CMC dated 17th August, 2016 of NITI Aayog, National River Conservation Programme has been identified as a core scheme of the National Development Agenda approved by the Cabinet.

#### **The pollution abatement works taken up under the NRCP include:**

- Interception and diversion works/ laying of sewerage system to capture raw sewage flowing into the rivers through open drains and diverting them for treatment.
- Setting up of Sewage Treatment Plants (STPs) for treating the diverted sewage.
- Construction of Low Cost Sanitation Toilets to prevent open defecation on river banks.

- Construction of Electric Crematoria and Improved Wood Crematoria to conserve the use of wood.
  - River Front Development works, such as improvement of bathing ghats.
  - Public participation & awareness and capacity building, etc.
- Presently, NRCP (excluding Ganga and its tributaries) has covered polluted stretches of 57 rivers in spread over 17 States/UTs at a sanctioned cost of Rs.8931.49 crore. An amount of Rs.3766.81 crore has been released to various State Governments for implementation of various pollution abatement schemes and a treatment capacity of 2941.03 million litres per day (MLD) has been created so far under the NRCP resulting in reduction in pollution load being discharged into various rivers.

**The following rivers are covered under NRCP:**

Sl. No.	River	Sl. No.	River	Sl. No.	River	Sl. No.	River
1	Adyar	16	Imphal	31	Narmada	46	Tapi (Nagaland)
2	Banganga	17	Jhelum	32	Nambul	47	Tamrabarani
3	Beas	18	Joari	33	Pamba	48	Tawi
4	Bhadra	19	Keleureu	34	Panchganga	49	Teesta
5	Brahmani	20	Krishna	35	Pennar	50	Tizu
6	Cauvery	21	Marachu	36	Periyar	51	Tunga
7	Cooum	22	Mahanadi	37	Punyaonganm ong	52	Tungabadra
8	Chitrapuzh a	23	Manipur	38	Rangit	53	Vaigai
9	Devika	24	Mandovi	39	Rani Chu	54	Vennar
10	Diphu & Dhansiri	25	Melak	40	Sabarmati	55	Wainganga
11	Dhansiri & Chethe	26	Mindhola	41	Satluj	56	Zuari
12	Donyung Shumang	27	Mula Mutha	42	Sedzu	57	Zungki
13	Garu	28	Musi	43	Subarnarekha		
14	Ghaggar	29	Mutsum	44	Tapti		
15	Godavari	30	Nag	45	Tapi		



From 01.08.2014, works related to Ganga and its tributaries were transferred to the then Ministry of Water Resources, River Development & Ganga Rejuvenation (MoWR, RD&GR). Accordingly, the rivers namely Ganga, Yamuna, Gomti, Damodar, Mahananda, Chambal, Beehar, Khan, Kshipra, Betwa, Ramganga and Mandakini have been shifted to MoWR, RD & GR along with the National Mission for Clean Ganga (NMCG). The Central Government has, vide Notification No. 1763 dated 14th June, 2019, further amending in the Government of India (Allocation of Business) Rules, 1961, transferred NRCD including NRCP from Ministry of Environment, Forest and Climate Change (MoEF&CC) to the Department of Water Resources, River Development & Ganga Rejuvenation (DoWR, RD&GR) under the newly constituted Ministry of Jal Shakti for implementation of works in respect of pollution abatement of rivers other than Ganga and its tributaries under the NRCP.

### **3.12 NATIONAL WATER MISSION (NWM)**

National Water Mission (NWM) was set up as per the National Action Plan on Climate Change (NAPCC) which was approved by the Government of India and released by the Hon'ble Prime Minister on 30th June 2008. The main objective of NWM is "conservation of water, minimizing wastage and ensuring its more equitable distribution both across and within States through integrated water resources development and management". "Implementation of National Water Mission (NWM)" is a Central Sector Scheme of DoWR, RD & GR.

National Water Mission is an umbrella Mission for an integrated perspective on water and functions as a coordinating body with the implementing wings/ bodies of the Ministry of Jal Shakti and its allied Departments/Ministries. National Water Mission's platform brings all the stakeholders like Central Government Ministries/ Departments, State Governments, District and local bodies, industrial associations, NGOs, PRIs, international organizations together to work towards a greater vision for creating awareness and unified action on water.

### **3.13 GROUND WATER MANAGEMENT & REGULATION (GWM & R)**

Ground Water Management and Regulation (GWMR) scheme is a continuing Central Sector Scheme, which is being implemented since 2007-08 by Central Ground Water Board (CGWB). The scheme has been approved for continuation till 31st March 2026.

**Major Activities under the Scheme include:**

- Aquifer Mapping
- Interventions for Aquifer Rejuvenation and Springshed Mapping
- Construction of Piezometers
- Monitoring of ground water levels
- Monitoring of ground water quality
- Assessment of ground water resources
- Regulation and control of ground water extraction
- Outreach Activities

The National Aquifer Mapping & Management (NAQUIM) Programme is one of the main initiatives under the scheme with a goal to map approximately 25 lakh Km<sup>2</sup> of territory by March 31, 2023.

### **PUBLIC INVESTMENT BOARD (PIB)**

In addition to the above ongoing activities under GWMR scheme, a Project has been approved by the Public Investment Board (PIB) for creating infrastructure for data generation for National Aquifer Mapping and Management (NAQUIM) to be implemented as a part of the GWM&R Scheme for the period 2022-2026. Major Activities envisaged under this project include:

- Construction of 7000 piezometers along with installation of 7000 Digital Water Level Recorders (DWLRs) with telemetry system
- Heli-borne surveys for high resolution mapping in ~ 3 lakh sq km area in arid parts of NW India.
- Data Generation for Aquifer Mapping through construction of Wells (1135 wells in 11 States)

### **3.14 RIVER BASIN MANAGEMENT (RBM)**

River Basin Management (RBM) consists of two broad components namely Brahmaputra Board and Investigation of Water Resources Development Scheme (IWRDS). IWRDS is being implemented by (i) National Water Development Agency (NWDA) and (ii) Central Water Commission (CWC). Under this scheme, Brahmaputra Board is carrying out works of-

- Survey, investigation and preparation of Master Plan,
- Preparation of DPR of Multipurpose Projects
- Drainage Development Schemes
- Anti-erosion works including protection of Majuli Island, Balat Village in Meghalaya, Mankachar and Masalabari area in Assam etc. from flood and erosion and Construction of Raised Platforms.

The total budget outlay of this Central Sector Scheme during 2021-22 to 2025-26 is of Rs. 1276.00 crore. Budget Estimate, Revised Estimate and Actual expenditure for NWDA and ILR –Ken Betwa Link Project for the year 2024-25 is as under:

NWDA			ILR-Ken Betwa Link Project	
Sl. No.	Specification	Rupees (in crore)	Specification	Rupees (in crore)
1.	Budget Estimate (BE)	215.00	Budget Estimate (BE)	4000.00
2.	Revised Estimate (RE)	204.49	Revised Estimate (RE)	2000.00 (Proposed)
3.	Actual Expenditure upto 30.11.2024	33.35	Actual Expenditure upto 30.11.2024	1368.01

### Achievements of RBM Scheme

Under IWRDS component of scheme, Various S&I works and studies on hydrological, Irrigation Planning environment aspects, cropping pattern have been done for the following project mentioned projects:

- Barinium HEP, J&K
- Tlawng Hydro-Electric Project, Mizoram
- Madhura Irrigation Project, Assam
- Mat-Sekawi, H.E. Project Mizoram
- Tuichang H.E. Project, Mizoram
- Buroi Medium Irrigation Project, Assam
- Medium Irrigation Project in Mebo Area, Arunachal Pradesh
- Drass-Siru Link Project
- Damring Irrigation Project, Meghalaya

Under this scheme, Brahmaputra Board had taken up preparation of master plans of the main stem of the Brahmaputra and Barak along with 68 major tributaries of Brahmaputra including Majuli Island, river Dholeswari and rivers of Meghalaya, Mizoram, Manipur and Tripura in three parts. Preparation of Manipur River Master Plan and updation of Hoara river Master Plans is going on and Updation of Master Plan of Main Stem Brahmaputra, Barak, South Flowing River of Meghalaya, Rivers of Mizoram have been initiated for taking up during FY 2022-23.

Three Master Plans (Tangani, Kynshi and Sankosh-Raidak) are under updation using

latest State of art modern technology for obtaining necessary approval of Govt. of India. Modification of draft Master Plan of Teesta basin is also being taken up. In addition, Brahmaputra Board took up survey & investigation of 14 multipurpose projects in Brahmaputra and Barak basin and in the south flowing rivers of Meghalaya. Currently, work for DPR preparation of Simsang Dam project, Meghalaya and Jiadhal Dam project, Arunachal Pradesh has been entrusted to WAPCOS and is in progress.

Work of protection of Majuli Island from Flood and Erosion is also being done under this scheme. A new scheme for protection of Majuli Island from flood and erosion of river Brahmaputra for Rs. 233.57 crore was approved by the then Ministry of Water Resources and Ministry of DoNER allocated Rs. 207 crores for the same and remaining amount have been utilized under River Basin Management scheme. Execution of the scheme is in progress. 97% of the works has been completed so far.

Bio-Engineering measures for Flood and Erosion Management-A pilot project of bio-engineering measures for river bank erosion of Brahmaputra at Right bank downstream of Kordoiguri of river Brahmaputra at Majuli Island of river Brahmaputra at Majuli island is under progress. For preparation of Detailed Project Report to check flash flood and erosion in BTC area by Pagla/Baitamari, Aie, Beki, Pagladiya, Sankosh, Gangia and Saralbhanga rivers, work has been allotted to WAPCOS for preparation of Draft DPR is in progress.

### 3.15 INFORMATION, EDUCATION AND COMMUNICATION (IEC)

#### National Water Awards:

The Department of Water Resources, River Development and Ganga Rejuvenation, Ministry of Jal Shakti organizes the National Water Awards every year since 2018 with the objectives to encourage various stakeholders including the States, Districts, Schools, Non-Governmental Organizations (NGOs), Gram Panchayats, Urban Local Bodies, Water User Associations, Institutions, Corporate Sector, etc to adopt a holistic approach towards water resource management in the country.

These awards would recognize exemplary work done by the people in this arena. National Water Awards is solely an

initiative that focuses on incorporating and adopting innovative practices of ground water augmentation by rainwater harvesting and artificial recharge, promoting water use efficiency, recycling & re-use of water through citizen participation. The National Water Awards (NWAs) focus on the good work and efforts made by individuals and organizations across the country in attaining the government's vision of a '*Jal Samridh Bharat*'.

The 1st, 2nd, 3rd 4th and 5th National Water Awards were successfully organized by the Department in 2018, 2019, 2020, 2023 and 2024 respectively, and winners in different categories were felicitated with awards & cash prizes. The Hon'ble President of India, Smt. Draupadi Murmu, presented the fifth National Water Awards in New Delhi on 22nd October, 2024.



5th National Water Award, 2023 held at New Delhi



6th National Water Awards for year 2025 have been launched to create awareness among the people about the importance of water and attempts to motivate them to adopt the best water usage practices. The event will also provide an occasion for all people and organizations to further cement a strong partnership and people engagement in water resources conservation and management activities. The 10 categories under 6th NWA, 2024 are Best State, Best District, Best Village Panchayat, Best Urban Local Body, Best Institution (other than School/College), Best School or College, Best Civil Society, Best Water User Association, and Best Individual for Excellence in water sector and Best Industry.

#### **Electronic Media Campaign-Production of videos/films:**

Various video spots/documentary films on successful work done by the Department, animated videos/short videos/ films are produced for awareness on water conservation and rain water harvesting techniques, videos for National Water Awards were produced through NFDC. These videos are shared/uploaded on social media platforms like Facebook, Instagram, and twitter (now X) etc. to spread awareness among general public about water conservation and management practices.

#### **Social Media campaign:**

The social media activities of the Department are operated on Facebook, Twitter, Instagram, Youtube and Threads App. The targets of the campaign include increasing reach of social media handles of the Department & its organizations,

creation of quality content to connect with the people, highlighting the initiatives/campaigns of the Department, creation of awareness about water resources, conservation and management, and engaging people of the country. Campaigns have been undertaken on success stories celebrating successful endeavours of individuals, groups, and organizations, Catch the Rain campaign, Water for All, Every Drop Counts, Azadi Ka Amrit Mahotsav (AKAM) campaign, Special Campaign 4.0, Swachhata Hi Seva, International Conference on Dam Safety, Did You Know, Water Art Contest, Trivia Tuesday, Home H2o Care, Water Wisdom, Wednesday, Jal Dharohar, Just Kidding, River Of Clues, Hydro Humor, WED, IDY, Myths Vs Facts, Conversation Se Conservation Tak, Jal Yatra, Dekho Apna Desh, and others.

#### **Internship in Mass Communication:**

DoWR, RD & GR initiated an internship programme to engage students pursuing Under Graduate/Graduate/Post Graduate Degrees or Research Scholars enrolled in recognized University/Institution in the field of Mass Communication in India, as "interns". The Internship Programme aims to allow short term exposure to "selected candidates" to be associated with the Department's work related to media/social media activities. The programme will well acquaint the "Interns" with the working of the Department in the field of media/social media related activities etc. as well as supplement the process of mass publicity of this Department to create awareness about importance of development and

management of water resources in holistic manner. In the first batch of interns, 03 interns have joined.

### **Logo Support:**

During the year, the Department has provided logo support for the various events including 5th edition of Jal Prahari Samman, The structure of Indian Power sector by 2047- Challenges and Opportunities, MSMECCII 5th Global Sustainability Conclave, 10th edition of ISUW 2024, 10th India Industry Water Conclave, 7th G- STIC (Global Sustainable Technology and Innovation Community), the Poster of Bharat Singh Memorial Lecture Series, 5th Global Sustainability Conclave 2024, 8th India Water Week 2024 etc.

### **Participation in Exhibitions/ Expos:**

The Department has also participated in various exhibitions/Expos including 15th Agrovision, Gujarat Global Expo 2024, Aspiring Odisha, Government Schemes Expo 2024, 28th Sundarban Kristi Mela-O- Loko Sanskriti Utsab, 43rd edition of the India International Trade Fair (IITF), Government Scheme Expo 2024, Sashakt Rajasthan, 5th National Water Awards, 8th India Water Week, Rise in Jammu & Kashmir 2024, 14th National Exhibition, Gatisheel Jammu and Kashmir Event etc. These events help in spreading the best & innovative water conservation and management practices among the masses.

### **Publicity through Print Media Publishing of bi-monthly magazine "Jal Charcha":**

#### **3.16 E-GOVERNANCE ACTIVITIES:**

The Department has been publishing bi-monthly 'Jal Charcha' magazine to engage

with the stake holders to help in informed decision-making at the central level. The magazine in its new format has the objective to bring best practices and good work done by the Department & its organizations in the field of water sector to the national stage, and move ahead in the direction of creating water consciousness in the minds of the people. Given the vastness of the subject, while the theme of the magazines would change with different editions, the effective water resources conservation and management in an integrated manner will remain the central theme.

- Department has completely operationalized e-Office w.e.f. 2nd February, 2017. This Department has more than 99.85% electronic files usage in e- Office and the percentage of physical files being used is less than 0.5%. All new files are opened in electronic form. Presently e-Office (Lite) v7.3.9.x (latest version) is implemented w.e.f. 01.07.2024 in the Department.
- Department has participated in the 'Smart India Hackathon (SIH) 2024' launched by Ministry of Education in coordination with All India Council for Technical Education (AICTE). SIH is the platform where State Governments / Ministry / Departments share critical 'Problem Statements' which will be used to challenge students of Higher Education Institutions (HEIs) for offering innovative technical solutions. 12 Problem Statements (PSs) submitted by the Department



have been selected by Ministry of Education for SIH 2024. Grand Finale of the event will be held from 11th December, 2024 to 15th December 2024.

- Department has linked its e-Office instance with Department of Expenditure, Department of Personnel & Training, Department of Tourism, Department of Legal Affairs enabling inter-departmental transfer of e-Files amongst these Departments. e-Office is fully implemented in the Attached/ Subordinate/ Autonomous & PSU offices in Central Water Commission (CWC), Central Soil & Materials Research Station (CSMRS), Central Water & Power Research Station (CWPRS), Ganga Flood Control Commission (GFCC), Central Ground Water Board (CGWB), Upper Yamuna River Board (UYRB), National Institute of Hydrology (NIH), National Mission for Clean Ganga (NMCG), National Water Development Agency (NWDA), National Projects Construction Corporation Ltd. (NPCC), National Water Informatics Center (NWIC), National River Conservation Directorate (NRCD), National Hydrology Project (NHP), National Water Mission (NWM), WAPCOS, NERIWALM, Mahadayi Prawah, and Bansagar Control Board.
- The website of the Department and the websites of its organizations are being updated on regular basis. Meity is in process of developing a website portal in Digital Brand

Identity Module (DBIM) with the objective to align websites of Ministries/Departments into a cohesive and single digital ecosystem. In this regard, some Ministries/Departments have been selected and exemplar websites have been created for them. DoWR, RD & GR is one of the departments for whom the exemplar website in DBIM format has been created. The new website is likely to be made live shortly by MeitY.

- Data Governance Quality Index (DGQI) is being implemented in the Department. DGQI is mainly a self administered survey for use of information technology for implementing central sector and centrally sponsored schemes of the Ministries/ Departments. The aim of DGQI is to improve the preparedness of the data systems of Ministries / Departments through a self-assessment mechanism. Action Plan for the Department has been prepared and submitted to NITI Aayog. About 17 projects/ schemes of the Department were included under DGQI. Scheme "DWRIS" has been dropped from the list of 17 schemes under DGQI. The Self-Assessment Questionnaire for the schemes/ projects of the Department are being submitted to NITI Aayog through online mode on quarterly basis. Latest score of the department in Q4 of 2023-24 is 3.96 and the Department is in- process to reach a DGQI score of 4 & above on the scale of 0-5.

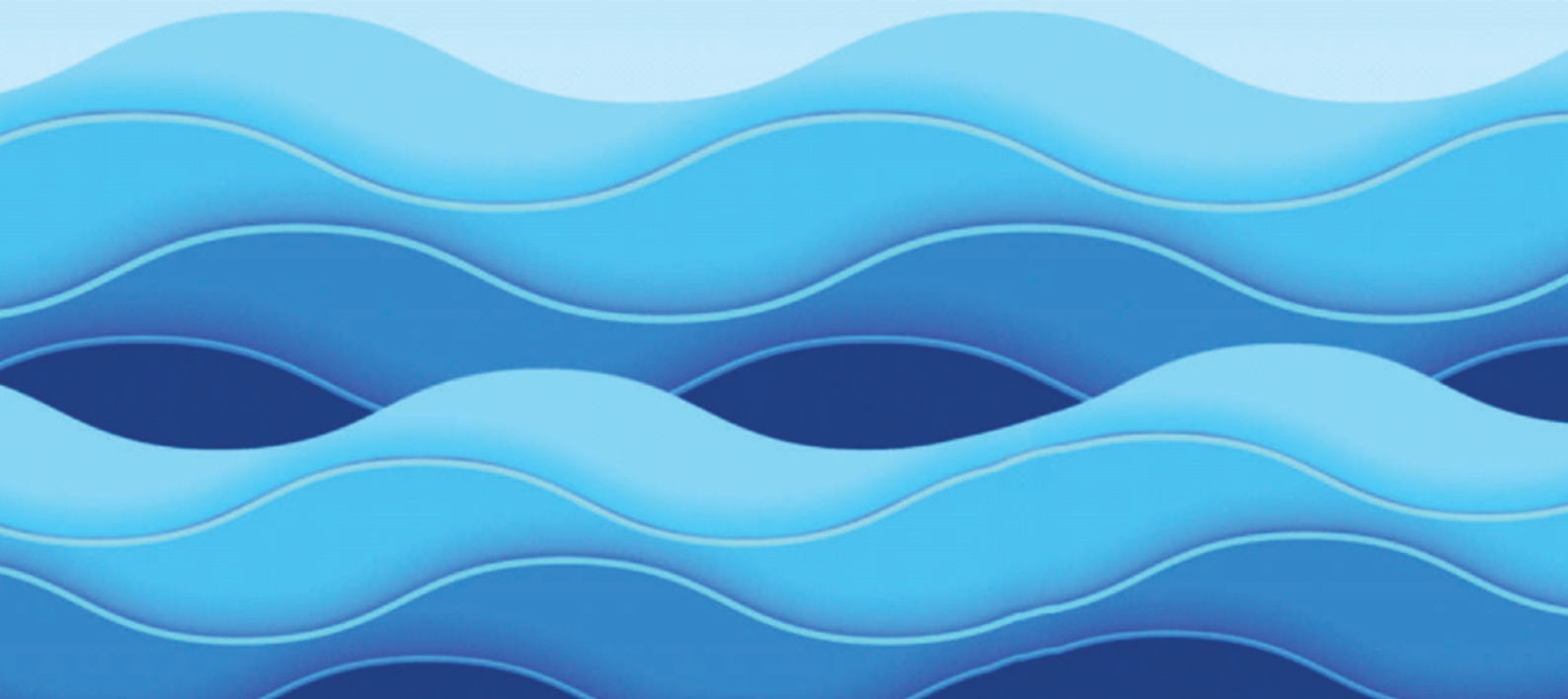
- MeitY vide letter No. NIC/170/12/2024/VTVR dated 11th September, 2024 has informed that in order to secure the Government's ICT assets, an audit must be started at the earliest. NIC has engaged CERT-In empaneled MeitY organizations i.e.

STPI and CDAC for auditing of IT Assets of Ministries and Departments. Infrastructure audit of the Department's asset has been started by STPI, an empanelled MeitY Organization.



# Chapter 4

## Inter-State River Issues





## 4. Inter-State River Issues

**“Jal Bachao, Jagat Bachao”**

### 4.1 INTER-STATE RIVER WATER DISPUTES (AMENDMENT) BILL, 2019

The Inter-State River Water Disputes (Amendment) Bill, 2019 has been considered and passed by Lok Sabha on 31.07.2019. Subsequently, the Bill is to be considered in Rajya Sabha. The Bill seeks to establish a single Tribunal in place of multiple Tribunals by way of amending the existing Inter-State River Water Disputes Act, 1956 (ISRWD Act, 1956) for adjudication of inter-State River water disputes in a time bound manner. A new Tribunal with permanent establishment and its own permanent office space and infrastructure will obviate the need for establishing a separate Tribunal for each water dispute, a process which has invariably been found to be time-consuming.

Enactment of the above amendments will facilitate faster adjudication of water disputes and establish a robust institutional architecture for the purpose. Constitution of a single Tribunal with different benches as envisaged in the proposed amendment will result in about 25% reduction in staff and the consequent reduction in expenditure.

### 4.2 DAM SAFETY ACT, 2021

To have a unified dam safety procedure all over the country, the Dam

Safety Act, 2021, was notified in the Gazette of India on 14th December 2021 and the Central Government appointed 30th December 2021 as the date on which the provisions of the said Act shall come into force. Dam Safety Act, 2021 provides for surveillance, inspection, operation and maintenance of the specified dam for prevention of dam failure related disasters and to provide for institutional mechanism to ensure their safe functioning and for matters connected therewith or incidental thereto.

The Act has the provisions for setting institutional mechanism at both national and state level as mentioned below:

#### National Level:

- **National Committee on Dam Safety (NCDS):** NCDS evolves dam safety policies and recommend necessary regulations and maintain standards of dam safety. Ministry of Jal Shakti, vide Gazette notifications S.O. 757(E) and G.S.R. 134(E) dated 17.02.2022, constituted NCDS and NCDS Rules, 2022, on procedures, allowance and other expenditure, respectively. Second, third & fourth meetings of NCDS was held on 06.06.2023, 05.12.2023 & 12.03.2024 under the chairmanship of the Chairman, NCDS as per the provisions of the Act.

- **National Dam Safety Authority (NDSA):** NDSA implements the policy, guidelines and standards evolved by the NCDS for proper surveillance, inspection and maintenance of specified dams. Ministry of Jal Shakti, vide Gazette notifications S.O. 758(E) and G.S.R. 135(E) dated 17.02.2022 established NDSA and notified functions & power rules 2022, respectively. Details are covered under Chapter-7 (Sub heading-7.3.13).

#### State Level:

- **State Committee on Dam Safety (SCDS):** SCDS supervises State Dam Safety Organisation (SDSO), State dam rehabilitation programs, review the work of the SDSO, and review the progress on measures recommended in relation to dam safety. All 31 States/UTs owning the specified dams have constituted the SCDS.
- **State Dam Safety Organisation (SDSO):** State Dam Safety Organisation keeps perpetual surveillance, carry out inspections, and monitor the operation and maintenance of all specified dams falling under their jurisdiction to ensure continued safety of such specified dams and take such measures as may be necessary to address safety concerns. All 31 States/UTs owning the specified dams have established the SDSO.
- **Dam Safety Unit (DSU):** As per the provisions of the Act, for each

specified dam, the owner shall, within the operation and maintenance establishment, provide a dam safety unit consisting of such competent levels of engineers as may be specified by the regulations.

#### WORKSHOPS, MEETINGS, VISITS:

- A Regional Review meeting/ Interaction meeting was held with all the SDSOs in the jurisdiction of Western Regional Office of NDSA on 21.02.2024 at Bhopal. The states made a presentation on the progress made by them in the implementation of the dam safety Act 2021. Subsequent to the visit, the team of the NDSA officials visited Indirasagar dam (Madhya Pradesh) on 22.02.2024 to review their dam safety related activities. Further NDSA held such regional review meetings regularly with all the SDSOs in virtual mode.
- NDSA held regular meetings with the dam owners of the projects which are vulnerable to Glacial Lake Outburst Flood (GLOF). All these dam owners were directed to carry out a detailed study on their vulnerability to GLOF.
- With a view to capacity building in respect of the Dam Health & Rehabilitation Monitoring Application (DHARMA) portal, the training has been imparted to officers of concerned State Governments / Dam owners. Further, the Dam owners are being continuously sensitized to update



the data in the DHARMA portal, pertaining to their respective dams.

- NDSA officials attended a training program on In-situ application of the Rapid Risk Assessment tool organised at Ukai dam, Bhakra Dam, and Ichari dam sites during March 4-15, 2024.

#### **DAM SAFETY INSPECTION VISITS:**

- After the information about sinking of piers of Medigadda (Laxmi) barrage was received, a committee comprising officials from NDSA and CWC was constituted to examine the reasons for the sinking of the piers of Medigadda (Lakshmi) Barrage vide NDSA, DoWR, MoJS, GoI O/o No: Mi/35/2023-NDSA-MOWR dated 22.10.2023. The Committee led by Member (Disaster & Resilience), National Dam Safety Authority was deputed from 23rd to 26th October 2023 to examine the reasons for the sinking of the piers of the Medigadda Barrage only. The Committee, based on the Medigadda barrage inspection, discussions held with the stakeholders and after examination of the documents made available by I & CAD Deptt., had submitted its report to the Chairman, NDSA on 01.11.2023. This report has been shared with the Special Chief Secretary, I&CAD Telangana; Secretary DoWR, RD & GR and Chairman, CWC. The Telangana State has been requested to look into the issues raised in the Committee report and to undertake measures to remedy the barrage

after a detailed investigation to determine the failure's causes. Further on the request of the Secretary, Irrigation and CAD Department, Govt. of Telangana (through their letter dated 13.02.2024), NDSA has constituted a Committee under the Chairmanship of Sh. J. Chandrashekhar Iyer, Ex-Chairman, Central Water Commission, New Delhi vide NDSA Office Order dated 02.03.2024 for thorough inspection and study of the designs and construction of the three barrages i.e. Medigadda, Annaram, and Sundilla barrages of Kaleshwaram Project. The Committee has to submit its report to the NDSA within four (4) months. The Committee visited Kaleshwaram Project during March 6-9, 2024. The investigation is under process.

- NDSA vide its O.M. dated 20.11.2023 constituted a committee headed by the Ex-Chairman, CWC to examine the issues related to Sikkim disaster due to GLOF. The Committee has held seven meetings and a field visit to affected projects. The final report of the Committee is awaited.
- A team of officials from NDSA, CWC, CSMRS, KRMB, Govt. of Telangana and Govt. of Andhra Pradesh visited Srisailem Project (Andhra Pradesh) during Feb 7-9, 2024 to carry out the safety Inspection. During the visit, the team held a meeting with the SDSO Andhra Pradesh.

- A team of officials from NDSA, CWC, KRMB, Govt. of Telangana and Govt. of Andhra Pradesh visited Nagarjuna Sagar Project (Telangana) during Feb 15-17, 2024 to carry out the safety Inspection. The team submitted its report on March 14, 2024.
- Ministry of Jal Shakti through NDSA and CWC, organized outreach program at the 25 iconic dam sites across the Country with community participation under "Azadi Ka Amrit Mahotsav (AKAM)" for promoting Dam Tourism.

#### 4.3 INTER-STATE WATER DISPUTES TRIBUNALS

##### KRISHNA WATER DISPUTES TRIBUNAL

The Krishna Water Disputes Tribunal was constituted on 2nd April, 2004 for adjudication of the dispute relating to sharing of waters of Inter-State River Krishna and river valleys thereof. In the Writ Petition No. 408 of 2008, Hon'ble Supreme Court has ordered that the effective date of constitution of the Tribunal will be of 01.02.2006. Consequently, the term of the Tribunal was extended up to 31.12.2010 as per provisions of ISRWD Act, 1956. The report and the decision by the Tribunal under Section 5(2) of the Act were forwarded to the Ministry of Water Resources on 30th December, 2010.

Thereafter, the party States i.e. Andhra Pradesh, Karnataka, Maharashtra and also the Central Government filed their Reference Applications u/s 5(3) of the Act to the Tribunal. The order was pronounced

by the Tribunal on 29.11.2013 by way of further report and same was forwarded to the Central Govt. and the respective Party States under Section 5 (3) of the Act for their information and implementation. However, on account of stay by Supreme Court vide its order dated 16.09.2011, the award could not be published in the Official Gazette in terms of Section 6(1) of the ISRWD Act, 1956, yet.

Meanwhile, as per Andhra Pradesh Re-Organization Act, 2014 the term of the Tribunal was extended for forwarding of further report by the Tribunal so as to address the terms of reference specified in clauses (a) and (b) of the Section 89 of the Andhra Pradesh Re-Organization Act, 2014 (6 of 2014). The Tribunal after hearing the parties delivered its decision on 19.10.2016 on the preliminary issues relating to jurisdiction and scope of Section 89 of Act No. 6 of 2014. The report was forwarded to Ministry of Water Resources on 19.10.2016. The date of submission of the Further Report has been extended from time to time.

Further, the Central Government vide Notification No. S.O. 4375(E) dated 6th October, 2023, in pursuance of the provisions contained in Section 3, Sub-section (1) of Section 5 and Section 12 of the Inter-State River Water Disputes Act, 1956 (33 of 1956), has referred the following further terms of reference to the Krishna Water Disputes Tribunal for adjudication: -

- for the purposes of clauses (a) and (b) in the existing terms of reference, "project-wise" means existing, on-going and

- contemplated projects of both the States of Telangana and Andhra Pradesh, and
- shall distribute/allocate the Krishna River waters between the States of Telangana and the present State of Andhra Pradesh from the undivided share of erstwhile State of Andhra Pradesh and the total undivided share of the erstwhile State of Andhra Pradesh that may be considered for the purpose of this distribution/allocation is as below:
  - 811 Thousand Million Cubic Feet (TMC) of overall allocation (en bloc) made by the Krishna Water Disputes Tribunal-I to the erstwhile State of Andhra Pradesh and any additional allocation over and above it made by the said Tribunal to the erstwhile State of Andhra Pradesh; and
  - share of water allocated to the erstwhile State of Andhra Pradesh by the Godavari Water Disputes Tribunal, which is made available by transfer of water from Godavari to Krishna through Polavaram Project and any further transfer from Godavari to Krishna from Polavaram project, if proposed.

On receipt of the Gazette Notification dated 6th October, 2023, the Tribunal has started its proceedings accordingly. Presently, the term of the Tribunal has been extended for a further period of 16 months w.e.f. 01.04.2024 vide Notification dated 21.03.2024 published in Extraordinary Gazette of India.

Expenditure incurred by the Tribunal from 01/04/2024 to 30/11/2024 is as under: -

Sl. No.	Particulars	Rs. in lakhs
1	Budget Allocation for 2024-25	531
2	Cumulative Expenditure upto 31/03/2024 as per last Annual Report 2023-24	4426
3	Expenditure from 01/04/2024 to 30/11/2024	348
4	Cumulative expenditure upto 30/11/2024 (since inception of the tribunal)	4774

### **MAHADAYI WATER DISPUTES TRIBUNAL**

The Government of India on 16.11.2010 under Section 3 of the Inter-State River Water Disputes Act 1956 (as amended) constituted a Tribunal known as Mahadayi Water Disputes Tribunal (MWDT) for adjudication of the water

disputes relating to the inter-state river Mahadayi and the river valley thereof among the States of Goa, Karnataka and Maharashtra.

The Hon'ble Tribunal after completion of the procedure for examination of all the evidence, the award was reserved on 21.2.2018. Thereafter, in

the course of time the Tribunal prepared its award containing 12 Volumes running into about 2900 pages and forwarded the same to the Hon'ble Union Minister for the Ministry of Water Resources, River Development and Ganga Rejuvenation on 14.8.2018.

References have been filed by all the three party States as well as by the Central Government under Section 5(3) of the Inter State Water River Act 1956. Against the main Award dated 14/08/2018 all the three party states have preferred appeals before the Hon'ble Supreme Court of India. Those appeals are pending for hearing. These Civil Appeals were lastly listed before Hon'ble Supreme Court on 13th November, 2024. The Civil Appeals are now directed to be listed in the week commencing from 20th January, 2025. The State of Karnataka has also filed an Interlocutory Application (I.A.) before Supreme Court for a direction to the Union

of India to publish the MWDT Award dated 14.08.2018. Supreme Court vide its Order dated 20.02.2020, allowed the said I.A. subject to the result of the pending proceedings. Accordingly, Central Government has published MWDT decision in Official Gazette on 27.02.2020 which is effective now. Considering the fact that the matters are sub judice before the Hon'ble Supreme Court of India and also keeping in view the demands of propriety, the Tribunal vide its order dated 16.06.2020 deemed it appropriate to adjourn the hearing of the References filed under U/S 5(3) of the ISRWD Act, 1956 sine die.

The term of the Tribunal is being extended from time to time to facilitate disposal of further reference. Central Government vide Notification dated 20.08.2024 extended the period of submission of further report by the Tribunal for a further period of 180 days with effect from the 20th August, 2024.

The financial expenditure of the Tribunal for the period 01 April 2024 to 31.12.2024 are as under:

Sl.No.	Specification	Rupees
1.	Final Budget Allocation for 2024-25	5.70 Lakhs
2.	Expenditure incurred by the Tribunal for 01.04.2024 to 31.12.2024	3.65 Lakhs (Approx)

## **MAHANADI WATER DISPUTES TRIBUNAL**

The Government of Odisha had filed a complaint dated 19.11.2016 under section 3 of Inter-State River Water Disputes Act, 1956, read with Inter-State River Water Disputes Rules, 1959. The State of Odisha requested to Union Government for constitution of a Tribunal under section 4(1) of the Inter-State River Water Disputes Act, 1956 for adjudication

of the water disputes in respect of the inter-State river Mahanadi and its basin between the riparian States of Odisha and Chhattisgarh.

The Central Government constituted Mahanadi Water Disputes Tribunal vide Gazette of India Notification No.114(E) dated 12.03.2018 consisting of the following Members nominated in this behalf by the Chief Justice of India, namely,

- Mr. Justice A.M. Khanwilkar, Judge of the Supreme Court of India [Chairman]
- Dr. Justice Ravi Ranjan, Judge of Patna High Court, [ Member-1] (the then)
- Mrs. Justice Indermeet Kaur Kochhar, Judge of the Delhi High Court, [ Member-2]
- Party States through various Interlocutory Application (IA)'s (25 IAs till date) requested the Tribunal for issuing necessary orders out of which 24 IAs have been dropped and taken on record.
- Process of Admission/Denial is completed. As a result, Tribunal ordered that parties to submit list of witnesses. Accordingly, the State of Odisha & Chhattisgarh have filed the affidavit of witnesses.

#### **Progress in Adjudication of the Disputes before Mahanadi WDT:**

- 42 hearings have been held till date. The Tribunal in the hearing held on 29.08.2020 has finalized 46 issues for the purpose of adjudicating the matter. Report of the Tribunal under Section 5 (2) is awaited. Central Government vide Notification dated 21.06.2023 extended the period of submission of report and decision by the Tribunal for a period of two years with effect from the 14th April, 2024, that is, on or before the 13th April, 2026, or till the submission of report and decision under sub-section (2) of section 5 of the Act, whichever is earlier.
  - Meanwhile a comprehensive physical site visit of both the participating states are completed.
  - Process of cross examination of first witness (Namely Dr. Manoj Kumar Panda) from the State of Odisha was completed with the liberty to both the States for cross examination in the future if needed.
- Hon'ble Chairman has resigned and demitted the charge of Chairperson on 08.03.2024 on being appointed as 'Lokpal of India'. Currently the position of Chairperson of this Tribunal is vacant. The Tribunal hearing adjourned till further orders.

#### **Expenditure incurred by the Tribunal:**

Sl.No.	Specifications	Rs. in Lakhs
1	Budget Allocation for 2023 -24(BE)	535.00
2	Expenditure from 01/04/2023 to 31/03/2024	455.00
3	Expenditure from 01/04/2024 to 30/11/2024	309.33
4	Cumulative Expenditure upto 31/12/2023 (since inception of the Tribunal) (w.e.f. FY 2019 -20)	1867.58



### **RAVI & BEAS WATERS TRIBUNAL**

The Ravi and Beas Waters Tribunal was set up in the year 1986 under Section 14 of the Inter State River Water Disputes Act, 1956 (Act no.33 of 1956) for verification and adjudication of the matters referred to in paragraphs 9.1 and 9.2 respectively, of the Punjab Settlement. The Tribunal submitted its report on 30.01.1987. The Central Govt. made a further Reference No.15(2)/85-IT dated 19.8.1987 under Sections 5(3) and 14(3) of the Inter State Water Disputes Act, 1956 for further explanation and guidance on the matters specified in the Schedule thereto. The said Reference remained pending before the Tribunal.

The Punjab Government was not satisfied with the award passed by the Tribunal and in the year 2004, the Punjab Legislative Assembly passed the Punjab Termination of Agreement Act, 2004. Consequently, the President of India made a Reference to Hon'ble Supreme Court of India under Article 143(1) of the Constitution of India regarding the constitutional validity of the said Act being the Special Reference No.1 of 2004. The Presidential Reference has since been disposed of by the Hon'ble Supreme Court of India vide judgment dated 10.11.2016. The Constitution Bench of the Supreme Court answered all the questions referred to it in the 'negative' and observed that the Punjab Act cannot be said to be in accordance with the provisions of the Constitution of India and by virtue of the said Act, the State of Punjab cannot nullify the judgment and decree referred to in the judgment and terminate the Agreement dated 31 December, 1981. The Supreme

Court has transmitted its opinion to the President of India in accordance with the procedure prescribed in Part V of the Supreme Court Rules, 2013.

Consequent upon the said development, the Hon'ble President of India has been extending the time to submit its Report by the Tribunal and to pass further orders on the Reference pending before the Tribunal on yearly basis. Hon'ble Mr. Justice Suman Shyam, Judge of Guwahati High Court was nominated as Member vide Gazette Notification S.O. 2444(E) dated 27 July, 2020; Hon'ble Mr. Justice Vineet Saran, Judge of the Supreme Court of India was nominated as its Chairman and Hon'ble Mr. Justice P. Naveen Rao, Judge of the Telangana High Court as Member vide Gazette Notification S.O. No. 1921(E) published on 22 April, 2022.

#### **Progress in adjudication of the Dispute before the Tribunal:**

During the year 2024-25, eight (08) hearings of the Tribunal have been conducted on 05 April, 2024, 04 & 05 July, 2024, 20 & 21 August, 2024, 19 & 20 September, 2024 and 13 November, 2024. In the meanwhile, on 05.04.2024, the Advocate on behalf of the Union of India sought adjournment of the Reference for 06 months. However, the request of the Union of India was not acceded to by the Tribunal and the matter was adjourned to 4 and 5 July, 2024. Fresh Vakalatnama dated 03/07/2024 has been filed on behalf of advocate for the State of Rajasthan. The Union of India has filed its submission on 02.08.2024. On 19.08.2024, a Note of Submission was filed on behalf of the State of Punjab. On the last hearing of the



Tribunal conducted on 13 November, 2024, the Advocate General for the State of Punjab made his submissions which remained inconclusive at the end of the day.

By consent of counsel for the parties, the next hearings of the Tribunal are scheduled to be held on 09, 10, 20, 21 and 22 January, 2025.

Details of the Expenditure of the Tribunal for the financial year 2024-25 are as under,

Sl.No.	Specifications	Amount
1	Budget Allocation for 2024-25 (BE)	862.00
2	Budget Allocation for 2024-25 (RE)	828.00
3	Expenditure incurred by the Tribunal (upto 30 November, 2024)	414.00

### **EX-VANSADHARA WATER DISPUTE TRIBUNAL (VWDT)**

The Vansadhara Water Dispute Tribunal was notified on 24 February, 2010 under the Chairmanship of Mr. Justice B.N. Agarwal with Mr. Justice Nirmal Singh and Mr. Justice B.N. Chaturvedi as its Members. Mr. Justice B.N. Agarwal and Mr. Justice Nirmal Singh resigned from the posts of Chairman and Member of the Tribunal respectively. Thereafter, the Central Government nominated Dr. Justice Mukundakam Sharma as Chairman of the Tribunal, who took over the charge of the post on 17 September, 2011 and Mr Justice Ghulam Mohammad as a Member of the Tribunal, who took over the charge of the post on 08 April, 2012. Upon demise of Mr. Justice Ghulam Mohammad on 23 November, 2017, Ms. Justice Pratibha Rani was nominated as Member of the Tribunal vide Gazette Notification No. S.O. 3923 (E)

dated 07 August, 2018, who assumed charge of Member on 27 August, 2018.

The Tribunal has forwarded its Report to the Central Government under Section 5(3) of the Inter State Water Disputes Act, 1956, on 21 June, 2021 which is yet to be published. The Central Government, upon being satisfied that no further reference to the said Tribunal in the matter would be necessary, in exercise of the powers conferred by Section 12 of the said Act, has dissolved the said Tribunal vide Gazette Notification S.O.1051 (E) published on 10 March, 2022.

All the assets and liabilities of VWDT including pending financial and other matters have been transferred to Ravi & Beas Waters Tribunal (RBWT) as per the Ministry's BM Division Letter No. N-60021/1/2022-BM Section-MoWR dated 08.03.2022.







# Chapter 5

## International Cooperation



## 5. International Cooperation

**“Jal Bachat Jahan Jahan, Sukh Shanti Wahan Wahan”**

### 5.1 INTERNATIONAL COOPERATION

DoWR, RD & GR has signed a Memorandum of Understanding (MoU) with different countries on cooperation in the field of water resources management and development. For effective implementation of activities under the various signed MoUs, to enhance the collaboration under the MoU, certain activities were undertaken including Joint Working Group (JWG) meeting, the details of which is as following: -

- **MoU with Denmark** - The MoU between India and Denmark was signed on 12.09.2022 on Cooperation in the field of Water Resources Management. Two projects namely “Centre of excellence on Smart Water Resources Management (CoESWaRM)” and “Smart Laboratories on Clean River (SLCR)” have been identified under the MoU. Steering Committee for Establishment of CoESWaRM headed by Chairman, CWC formed on 08.03.2024. Three areas for planning the modelling, software developments, capacity building and trainings were identified in the first Steering Committee meeting held on 26.04.2024. A workshop was organised on 17th October

2024 at CWC New Delhi for sharing insights on the 3 priority areas.

The Joint Steering Committee (JSC) and Project Review Committee (PRC) regarding establishment of a SLCR in Varanasi constituted on 08.07.2024. Further, Indian side Joint Working Group was formed on 05.08.2024. First Project Review Meeting (PRC) on SLCR was held on 29.07.2024 followed by Joint Steering Committee (JSC) meeting on 20.08.2024, wherein three proposals were approved.

The first Joint Working Group (JWG) meeting under the MoU was held on 05th December 2024. It has been agreed to have organizational division at PMU level into two sub-thematic areas under the existing CoE i.e. (1) Smart Water Resource Modelling and (2) Cooperation on National Ground Water Mapping. Also, it has been agreed to explore external funding through agencies like GIZ or World Bank for joint projects under CoE. Denmark has pledged 4 million DKK (~₹5 Cr) for SLCR to be used in consultant engagement, Technology development & transfer and Capacity-building activities & pilot demonstrations.





The first Joint Working Group (JWG) meeting under the MoU between India and Denmark was held on 05th December 2024 in New Delhi.

➤ **MoU with European Union** – The MoU between India and the European Union was signed on 01.10.2016 on Water Cooperation. Three JWG meetings have been convened so far. Third Meeting of JWG was convened on 12.07.2023 virtually. The 6th EU-India Water Forum meeting was held on 18.09.2024 during the 8th India Water Week in New Delhi. The meeting focused on enhancing cooperation in sustainable water management. Both sides committed to advancing river basin management, fostering innovation & technology transfer and promoting sustainable investments. The forum also explored trilateral collaboration between East Africa, India and the EU to address water challenges in regions like Lake Victoria and Lake Tanganyika. Established

in 2016, the India-EU Water Partnership (IEWP) is currently in Phase III, targeting areas such as climate resilience and urban flooding.

The forum brought together key stakeholders, including Hon'ble Minister of State of Jal Shakti and EU Ambassador to India, who highlighted the partnership's significant contributions to India's water sector and expressed eagerness to deepen collaboration. The initiative aligns with India's National 2030 Agenda and the EU's Global Gateway Strategy, supporting several United Nations Sustainable Development Goals. Overall, the forum reaffirmed the commitment to achieving sustainable water resource management for future generations.



The 6th EU-India Water Forum meeting held on 18.09.2024 during the 8th India Water Week in New Delhi.

- **MoU with Israel:** The MoU between India and Israel on Water Resources Management and Development Cooperation was signed on 11.11.2016. A Joint Review Committee (JRC) (Now Steering Committee) headed by DG, NMCG has been formed on 20.02.2024 to assess the activities and progress of the projects identified for implementation under the MoU. 1st meeting of the JRC was convened on 9th Oct 2024 under which it recommended the proposal for the "Establishment of India-Israel Centre of Water Technology (CoWT)" prepared and presented by IIT Roorkee. Further it was recommended by JRC to prepare proposals by IIT Roorkee and Israel team for two pioneering and demonstration projects and few training programs that can be taken up by CoWT immediately after its establishment.
- **MoC with Japan (Water Resources):** The Memorandum of Cooperation (MoC) between India and Japan was signed on 11.12.2019 in the area of Water Resources. Two meetings of Joint Working Group (JWG) have been convened so far. 2nd JWG meeting was held on 14.11.2024. In the meeting both sides agreed for extension of the MoU and to identifying additional areas for collaboration. The agenda Items including Water use efficiency (Item No.2), Flood Management (Item no.5), Land Subsidence pilot study, Dam Inspection and Upgradation were discussed and item no. 2 and 5 were agreed to be modified. Both the sides committed to identifying additional areas for collaboration to further enhance the scope of cooperation under the MoC.



2nd JWG meeting under the MoC between India and Japan held on 14.11.2024 virtually.

➤ **MoU with Morocco-** The MoU between India and Morocco on cooperation in the field of Water Resources was signed on 14.12.2017. Four JWG meetings have been convened so far. Fourth JWG meeting was convened on 20.09.2024. In the 4th JWG meeting the Moroccan side expressed their interest in collaboration with India

for water resources capacity building both in Morocco and in Africa with Morocco as a connection point between India and Africa. It was agreed upon that both the countries will share their experiences, analysis, findings, policies and developments in the field of water resources in its next meeting of JWG.



Fourth JWG meeting under the MoU between India and Morocco held on 20.09.2024 in New Delhi.



### Bilateral Meetings of Hon'ble Minister of Jal Shakti with the Ministers of Foreign Nations during India Water Week 2024 in New Delhi

- Denmark:** Mr. C.R. Paatil, Hon'ble Minister of Jal Shakti met with H.E. Mr. Morten Bødskov, Denmark's Minister of Industry, Business and Financial Affairs. Minister Bødskov reaffirmed Denmark's commitment to sustainable water solutions and highlighted the expertise of Danish companies in water management. The Hon'ble Minister of Jal Shakti proposed collaborative initiatives to develop scalable technologies for

water challenges, suggesting pilot projects at the district level. Discussions included urban flooding, water scarcity management, and enhancing agricultural efficiency. The Danish Minister's work in sediment management was acknowledged, and an invitation was extended for the Hon'ble Minister of Jal Shakti to visit Denmark to explore advanced water management technologies. This meeting signifies a vital step towards strengthening India-Denmark collaboration in tackling water challenges through innovation.



Bilateral Meeting of Hon'ble Minister of Jal Shakti with Hon'ble Minister of Industry, Business and Financial Affairs, Denmark held on September 18, 2024 during India Water Week 2024 in New Delhi.

- Guyana:** A significant meeting took place between Mr. C. R. Paatil, Hon'ble Minister of Jal Shakti and Mr. Collin D. Croal, Hon'ble Minister of Housing & Water, Guyana.

Minister Croal conveyed an MoU is being finalized with the Ministry of Housing and Urban Affairs (MoHUA), Govt. of India. He requested technical support for

Guyana's initiative to deliver 50,000 serviced houses, emphasizing the need for qualified water experts. In response, the Additional Secretary of Jal Jeevan Mission (JJM) detailed India's successful JJM program for potable water supply and proposed

capacity-building training for Guyanese officials in Kolkata. It was agreed upon that both the countries will share their experiences, policies and developments in the field of water resources.



**Bilateral Meeting of Hon'ble Minister of Jal Shakti with Hon'ble Minister of Housing & Water, Guyana held on September 18, 2024 during India Water Week 2024 in New Delhi.**

- **Tanzania:** Mr. C. R. Paatil, Hon'ble Minister of Jal Shakti, India met with Mr. Mathew Andrea Kundo, Deputy Minister of Water, Tanzania during IWW-2024. Minister Kundo lauded India's remarkable advancements in the water sector and emphasized the longstanding and fruitful bilateral relations. He expressed gratitude for the training provided to Tanzanian engineers following the Hon'ble President of India's visit to Tanzania, which has greatly benefited local initiatives. Furthermore, he acknowledged the

exemplary work of Indian companies, particularly WAPCOS, in the 24 Town project funded by a €500 million grant, highlighting their quality, transparency, and punctuality. The Tanzanian Minister proposed discussions on a new project to transport water from Lake Victoria, estimated at \$600 million, to address water challenges in Tanzania. Minister Paatil assured that this proposal would be deliberated upon in the Ministry positively and extended an invitation for the Tanzanian



delegation to explore technological collaborations during their

upcoming visit to the I-Tech event at IIT Roorkee.



**Bilateral Meeting of Hon'ble Minister of Jal Shakti with Hon'ble Deputy Minister of Water, Tanzania held on September 18, 2024 during India Water Week 2024 in New Delhi**

- Zimbabwe:** A productive meeting took place between Mr. C. R. Paatil, Hon'ble Minister of Jal Shakti and Mr. Vangelis Peter Haritatos, Hon'ble Deputy Minister of Lands, Agriculture, Fisheries, Water and Rural Development, Zimbabwe. Minister Haritatos expressed keen interest in India's advanced irrigation technologies and highlighted pressing challenges within Zimbabwe's irrigation sector. He acknowledged the valuable contributions of WAPCOS, which has conducted two feasibility studies necessitating an estimated \$80 million for project implementation. Furthermore, he elaborated on Zimbabwe's financial debt situation and ongoing efforts to mitigate it. Praising the high-quality Indian products, particularly irrigation pumps, he sought innovative financing options beyond traditional avenues such as EXIM etc. Minister Paatil assured that these matters would be deliberated upon positively, emphasizing that improvements in Zimbabwe's irrigation sector would significantly enhance food security across Africa.



**Bilateral Meeting of Hon'ble Minister of Jal Shakti with Hon'ble Deputy Minister of Lands, Agriculture, Fisheries, Water and Rural Development, Zimbabwe held on September 18, 2024 during India Water Week 2024 in New Delhi.**

## FOREIGN VISITS/ DEPUTATION

To enhance capacity building of the officers of DoWR, RD & GR, and its organizations, during the period from April 2024 to December 2024 about 108 officers have been deputed for foreign training, visits, seminars and conferences in the field of Integrated Water Resources Management, Groundwater Resources Management, Integrated flood modelling and Management, training on heli-borne geophysical studies etc. Many officers were deputed for attending the Danida Fellowship Centre, Denmark Scholarship Training courses on various topics such as Advanced Water Cycle Management, Responsive Project Management, Extended Producer Responsibility, Green and circular Economy training etc. Delegations of the Department were

deputed to participate in various international events such as the Singapore International Water week 2024, Korea International Water Week 2024, Asia & the Pacific Food Security Forum 2024, OZ Water Conference 2024 etc.

## 5.2 INDO-BANGLADESH JOINT RIVERS COMMISSION

### **India-Bangladesh Joint Rivers Commission (JRC)**

An Indo-Bangladesh Joint Rivers Commission (JRC) is functioning since 1972 with a view to maintain liaison in order to ensure the most effective joint efforts in maximizing the benefits from common river systems. It is headed by Water Resources Ministers of both the countries. So far, 38 meetings of JRC have been held.



### **Treaty on Sharing of Ganga/Ganges Waters at Farakka**

A Treaty was signed by the Prime Ministers of India and Bangladesh on 12th December, 1996 for the sharing of Ganga/Ganges waters at Farakka during the lean season. As per the Treaty, the Ganga/Ganges waters is being shared at Farakka (which is the last control structure

on river Ganga in India) during lean period, from 1st January to 31st May every year, on 10-daily basis as per the formula provided in the Treaty. The validity of Treaty is 30 years. The sharing of water as per the Treaty is being monitored by a Joint Committee headed by Members, JRC from both sides.



**85th Joint Committee Meetings held at Dhaka, Bangladesh on 14th November, 2024 the sharing of Ganga / Ganges waters at Farakka between India and Bangladesh as per the Treaty of 1996.**

The 85th meeting of the Joint Committee on sharing of the Ganga/Ganges waters at Farakka was held at Dhaka (Bangladesh) on 14th November, 2024 for finalization of Annual Report of the lean/dry season of the year 2024.

During the meetings the Indian delegation was led by Mr. Sharad Chandra, Commissioner (FM), Department of Water

Resources, River Development and Ganga Rejuvenation, Ministry of Jal Shakti, Government of the Republic of India and Member, India-Bangladesh Joint Rivers Commission. The Bangladesh delegation was led by Dr. Mohammad Abul Hossen, Member, India-Bangladesh Joint Rivers Commission, Ministry of Water Resources and Government of the People 's Republic of Bangladesh.

### 5.3 INDIA – NEPAL COOPERATION

#### **PANCHESHWAR MULTIPURPOSE PROJECT**

A "Treaty concerning the Integrated Development of the Mahakali River, including Sarada Barrage, Tanakpur Barrage and Pancheshwar Project" was signed during the visit of the then Nepalese Prime Minister Sher Bahadur Deuba to India in February 1996. Under this Treaty, India and Nepal have agreed to implement the Pancheshwar Multi-purpose Project as an integrated project. The Pancheshwar Development Authority (PDA) was also set up with approval of both the Governments in September, 2014. The project would provide hydro energy to stabilize the power grid in the region and address water deficit by long distance water transfer in due course.

#### **SAPTAKOSI HIGH DAM MULTIPURPOSE PROJECT AND SUN KOSI STORAGE CUM DIVERSION SCHEME (INCLUDING KAMALA DIVERSION)**

The India-Nepal Joint Project Office has started functioning in Biratnagar, Nepal since August 2004 with the mandate of jointly carrying out field investigations and preparation of DPR for Sapta Kosi High Dam Multipurpose Project and Sun Kosi Storage cum Diversion Scheme (SSDS). Investigation of Kamla Multipurpose Project, which is now a component of SSDS, and preliminary study of the Bagmati Multipurpose Project were added to its mandate in October, 2004. A Joint Team of Experts (JTE) of Government of India and Government of Nepal has been constituted to finalize modalities of investigations and method of assessment of benefits for joint

studies/ investigation for Sapta Kosi High Dam Multipurpose Project (SKHDMP) and regular JTE meetings are held.

#### **INDIA-NEPAL BILATERAL MECHANISM**

The Eighth Meeting of the Governing Body (GB) of Pancheshwar Development Authority (PDA) was held on 6-7th July 2023 in Pokhara, Nepal. The Nepalese delegation was led by Mr. Dinesh Kumar Ghimire, Secretary, Ministry of Energy, Water Resources and Irrigation (MoEWRI), Government of Nepal, and co-chairperson of GB, PDA. The Indian delegation was led by Mr. Pankaj Kumar, Secretary, Department of Water Resources, River Development and Ganga Rejuvenation (DoWR, RD & GR), Ministry of Jal Shakti, Government of India, and co-Chairperson of GB, PDA.

The 5th meeting of the Team of Experts (TOE) was held on 6-7th October, 2023 at Kathmandu, Nepal for discussion on the updated Detailed Project Report (DPR) of Pancheshwar Multipurpose Project (PMP). The Nepali delegation was led by Mr. Sushil Chandra Tiwari, Secretary, Water and Energy Commission Secretariat, Government of Nepal and Leader of Team of Experts from Nepal. The Indian delegation was led by Mr. Kushvinder Vohra, Chairman, CWC and Ex-Officio Secretary to Government of India and leader of Team of Experts from India.

The 17th meeting of the Nepal-India Joint Team of Experts on Sapta-Kosi High Dam Multipurpose Project and Sun-Kosi Storage-cum-Diversion Scheme was held on 9-11th October 2023 at Biratnagar, Nepal. The Nepali side was led by Mr. Chiranjeevee Chataut, Director General,

Department of Electricity Development, Government of Nepal (GoN) and the Indian side was led by Mr. P.M. Scott, Member (RM), Central Water Commission (CWC) and Ex-Officio Additional Secretary, Government of India (GoI).

#### **5.4 INDIA - CHINA COOPERATION**

During the visit of Hon'ble President of the People's Republic of China in November, 2006, it was mutually agreed upon to set up an Expert Level Mechanism (ELM) to discuss interaction and cooperation upon provision of hydrological data in flood season, emergency management and other issues regarding trans-border rivers. The ELM meetings are held annually alternately in both the countries. Government of India takes up relevant issues relating to trans-border rivers, with the Chinese side through Expert Level Mechanism. Fifteen meetings of ELM have been held so far. The 15th meeting of ELM was held at Beijing, China during 13th – 14th August, 2024. The GoI delegation was led by Sh. S.K. Sinha, Commissioner (B&B), DoWR, RD & GR, Ministry of Jal Shakti and the Chinese delegation was led by Mr. Hao Zhao, Director General of the International Economic & Technical Cooperation and Exchange Centre, Ministry of Water Resources, People's Republic of China. Representatives of Ministry of External Affairs (MEA), Central Electricity Authority (CEA) and Central Water Commission (CWC) had also participated in the meeting.

India and China also signed a Memorandum of Understanding (MoU) on provision of hydrological information on Yaluzangbu/Brahmaputra River in Flood Season in 2002 which was renewed in

2008, 2013 and 2018. Further, another MoU for the provision of flood season hydrological information of the Langqen Zangbo/Sutlej River in Flood Season by China to India was signed in 2005 and was renewed in 2010 and 2015 for another five years. The hydrological information received from the Chinese side is utilized in the formulation of flood forecasts by the Central Water Commission. The MoU on Brahmaputra has expired on 05th June, 2023 and is under process of renewal through diplomatic channels. The MoU on Sutlej has also expired 05th November, 2020 and is under process of renewal through diplomatic channels. For the year 2023, hydrological data (water level, rainfall and discharge) for the river Brahmaputra was received regularly twice a day w.e.f. 15.05.2023 till 05.06.2023. The hydrological data of Brahmaputra river has been suspended with effect from 06/06/2023. The hydrological data of Sutlej river was supplied by Chinese side for the year 2021 (01/06/2021 to 15/10/2021) despite the expiry of MoU. However, no data has been received for the flood season 2022 and 2023.

#### **5.5 INDIA-BHUTAN COOPERATION**

With regard to Bhutan, the matter relating to problem of floods created by the rivers originating from Bhutan and coming to India was taken up with the Royal Government of Bhutan. A Joint Group of Experts (JGE) on flood management was accordingly constituted between India and Bhutan in 2004 to discuss and assess the probable causes and effects of the recurring floods and erosion in the southern foothills of Bhutan and adjoining plains in India and to recommend to both



Governments appropriate and mutually acceptable remedial measures. Ten meetings of JGE have been held so far. The first meeting of JGE was held in Bhutan during 1st - 5th November, 2004 and the 10th meeting was held during 28th-29th February, 2024 at New Delhi, India. A Joint Technical Team (JTT) on Flood Management between the two countries was constituted to assess the field situation and provide technical support to JGE on flood management. JTT held its first meeting in 2005 and eight meetings of JTT have been held so far. The 8th meeting of JTT was held during 18th – 20th November, 2024 at Chalsa, Jalpaigudi, West Bengal, India.

DoWR, RD&GR, Ministry of Jal Shakti is also operating a scheme for setting up of flood forecasting system on rivers common to India and Bhutan for the development of mutual cooperation between the two countries in the field of hydro-meteorological data collection and flood forecasting activities on rivers common to India and Bhutan.

The present network in Bhutan comprises 36 hydro-meteorological sites on common rivers flowing from Bhutan to India for the above work. The data received from these stations are utilised in India by the Central Water Commission for formulating flood forecasts. A Joint Expert Team (JET) consisting of officials from the Government of India (GoI) and the Royal Government of Bhutan (RGoB) meets twice a year to review the progress and other requirements of the scheme. Thirty-eight meetings of JET have been held so far. 38th meeting of JET was held at Mandarmani, West Bengal, India during 10th - 11th December, 2024.

## 5.6 INDUS WATERS TREATY, 1960

The Government of India had signed Indus Waters Treaty 1960 with Pakistan concerning the use of waters of the Indus system of rivers. The Treaty was signed on 19th September, 1960 in Karachi, Pakistan.

The Indus Waters Treaty extends to main rivers of Indus basin i.e. Sutlej, Beas, Ravi (called as Eastern rivers) and Jhelum, Chenab and Indus (called as Western rivers) including their tributaries and sub tributaries and other water bodies.

Under the Treaty, India and Pakistan each have created a permanent post of Commissioner for Indus Waters. Each Commissioner is the representative of his government and serves as a regular channel of communication on all matters relating to implementation of the Treaty. The two Commissioners together form the Permanent Indus Commission (PIC).

Presently, Neutral Expert Proceedings regarding the Kishenganga and Rattle Hydroelectric projects under the provisions of the Indus Waters Treaty are ongoing. Three meetings and a site visit have been held so far under the ongoing Neutral Expert proceedings.

The Treaty provides for its provisions to be modified from time to time or terminated by a duly ratified treaty concluded for that purpose between the two Governments. In this regard, India has given notice to Pakistan for the revision/modification of the Treaty and is taking up the matter for commencement of discussions and negotiations regarding revision/modification of the Treaty.



# Chapter 6

## External Assistance in Water Resource Sector







## 6. External Assistance in Water Resources Sector

“Jal Prabandhan Mein Sara Desh Ek Ho”

### 6.1 External Assistance In Water Resources Sector

The DoWR, RD & GR, Ministry of Jal Shakti assists the State Governments/ Union Territories in availing external assistance from different multilateral funding agencies to fill up the resource gap and state of the art technology for water

resources development and management in the country. Presently, 09 Externally Aided Projects are being implemented in various States of the country with the assistance from different funding agencies, viz. the World Bank (3), Asian Development Bank (2), Japan International Cooperation Agency (JICA) (3) New Development Bank (NDB) (1).

The details including name of project, objective, project cost and loan amount are as under:

Sl. No.	Name of State	Project Name	Project Objective	Effective date/ Closing date	Estimated cost: Loan amount (in crore approx.)	Cumulative Disbursement (In crore approx.)
<b>Projects funded by WORLD BANK</b>						
1.	Andhra Pradesh	Andhra Pradesh Integrated Irrigation and Agriculture Transformation Project	To enhance agricultural productivity, profitability/ and climate resilience of small holder farmers in 1000 selected tanks stabilizing an ayacut of 2,26,552 Acres in 12 districts(except Guntur).	05.11.2018 31.10.2025	Estimated Cost- 1,844.25 Loan- 1,291.5	197.88
2.	Tamil Nadu	Tamil Nadu Irrigated Agriculture Modernization Project	To enhance productivity and climate/resilience of irrigated agriculture, improve water management and increase market opportunities for farmers and agro -entrepreneurs in selected sub-basin areas.	23.01.2018 02.06.2025	Cost- 3,418.5 Loan- 2,385	1,740.64

Sl. No	Name of State	Name Project	Project Objective	Effective date/ Closing date	Project cost: Loan amount (in crore approx.)	Cumulative Disbursement (In crore approx.)
3.	West Bengal	West Bengal Major Irrigation and Flood Management Project (WB-MIFMP)	To improve irrigation service delivery in the existing canal network of Damodar valley Project. Strengthen flood risk management.	11.08.2020/ 30.11.2025	Cost- 3,438.90 Loan- 2407.23 (WB and AIIB)	WB=990.63 AIIB=990.13 Total=1980.76
4.	West Bengal	West Bengal Accelerated Development of Minor Irrigation Project Phase-II	To augment water availability and strengthen water user associations for improved irrigated agriculture in project area of West Bengal.	29.07.2021/ 29.06.2029	Estimated Cost- 1500 Loan Amount 1050	54.36
5.	Assam	Assam Integrated River Basin Management Program	Reducing the vulnerability of people to climate-related disasters and improve integrated water resources management in Assam	24.03.2023/ 31.07.2027	Estimated Cost: 985.50 Loan Amount: 788.40	182.54
6.	Odisha	Odisha Integrated Irrigation Project for Climate Resilient Agriculture (OIIPCR)	The Project Development Objective is to intensify and diversify agricultural production, and enhance climate resilience in selected districts of Odisha.	16.12.2019/ 31.12.2025	Estimated Cost-1618 Loan Amount 1114	362.73
<b>Projects funded by ASIAN DEVELOPMENT BANK (ADB)</b>						
7.	Karnataka	Karnataka integrated & Sustainable Water Resources Management Investment program-2	Modernization of Vijayanagar Channel System and taking up Integrated Water Resources Management (IWRM) components in K8 sub-basin of Krishna River Basin. Preparation of River Ba-	24.1.2020/ 24.9.2024	Estimated Cost- 1,073.89 Loan Amount- 751.87	477.02



Sl. No.	Name of State	Name Project	Project Objective	Effective date/ Closing date	Project cost: Loan amount( in crore approx.)	Cumulative Disbursement(In crore approx.)
			sin Profile for K-2, K-3 & K-4 sub-basin in Karnata-ka and River Basin Atlas for Ghataprabha and Malaprabha Sub-basin.			
8.	Madhya Pradesh	Madhya Pradesh Irrigation Efficiency Improvement Project	Develop 1,25,000 hectares of new, highly efficient micro irrigation network in Rajgarh. Design and construction of a highly efficient and productive new pressurized irrigation system with automated volumetric control for efficient, reliable and flexible water delivery services.	22.11.2018/ 31.03.2026	Estimated Cost-4,425.80 Loan Amount 3,098.09	1,792.86
<b>Projects funded by JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)</b>						
9.	Andhra Pradesh	Andhra Pradesh Irrigation & Livelihood Improvement Project Phase-2	To modernize/ renovate about 20 major and/ medium irrigation sub projects and restore 445 minor irrigation sub projects and improving livelihoods of farmers and other rural communities.	06.07.2018/ 06.07.2025	Estimated Cost-1,988.74 Loan Amount 1410.4	221.72
10.	Odisha	Rengali Irrigation Project Phase-2	Increase agriculture production by constructing irrigation systems (main canal and distribution systems), establishing Water Users Associations and promoting livelihood support activity through improved farming technique and other re-	14.7.2015/ 14.7.2026	Estimated Cost-2,255.20 Loan Amount-1,787.30 (Cost escalation more by 553.82 cr)	729.12

Sl. No.	Name of State	Name Project	Project Objective	Effective date/ Closing date	Project cost: Loan amount (in crore approx.)	Cumulative Disbursement (In crore approx.)
			lated activities; thereby, contributing to improve living standard of farm-ers and socio-economic development.			
11.	Rajastha n	Rajasthan Water Sector Livelihood Improvement project	The objective of the project is to improve livelihoods of farmers as well as promote gender mainstreaming in agriculture and irrigation sector in the State of Rajasthan, by improving water use efficiency and agriculture productivity, through improvement of existing irrigation facilities and agriculture support services.	26.10.2017/ 26.10.2025	Estimated Cost-2,348.8 Loan Amount-1062 (Tranche-II)	703.42
<b>Projects funded by NEW DEVELOPMENT BANK (NDB)</b>						
12.	Rajastha n	Rajasthan Water Sector Restructuring project Desert Area	The project envisages rehabilitation & modernization of Indira Gandhi Nahar Project (IGNP) system which will improve the availability of water in 1,81,618 Ha of CCA and will also reclaim 33,312 Ha of water logged area in the region.	31.03.2018/ 12.08.2025	Estimated Cost-2,254.38 Loan Amount-1,578.07 (Tranche-II)	867.92 Cr.





# **Chapter 7**

## Organisations & Institutions



## 7. Organisations and Institutions

**“Jan-Jan Ne Thana Hai, Jal Ko Bachana Hai”**

### 7.1 ATTACHED OFFICES

#### 7.1.1 CENTRAL WATER COMMISSION (CWC)

CWC is headed by a Chairman with status of an ex-officio Secretary to the Government of India. The Commission has three technical wings, namely:

- Design and Research Wing
- Water Planning and Projects Wing
- River Management Wing

Each wing is headed by a Member with the status of an ex-officio Additional Secretary to the Government of India. Activities of the wings are carried out by 15 functional units at the headquarters, each headed by a Chief Engineer and assisted by Director/Superintending Engineer, Deputy Director / Executive Engineer, Assistant Director/ Assistant Executive Engineer and other Engineering and non-Engineering supporting staff in discharging the responsibilities assigned to the respective Wings. A Smart Water Resources Modelling Organisation acts as Centre of Excellence to grow as a pioneering hub for developing in-house expertise and innovation in tackling diverse problem statements and studies in water sector and directly reports to Chairman, CWC.

The Commission also has 14 Regional Organizations, each headed by a Chief Engineer. The headquarters of

Regional Organisations are located at Bengaluru, Bhopal, Bhubaneswar, Chandigarh, Coimbatore, Delhi, Gandhinagar, Hyderabad, Lucknow, Nagpur, Patna, Shillong, Kolkata and Guwahati. In addition, National Water Academy located at Pune headed by a Chief Engineer conducts training courses for the in-service engineers of Central and State Governments departments and Public Sector Undertakings.

The main activities of CWC may be summarized as follows:

- Flood Forecasting and Assistance to State Governments in Flood Management
- Collection and Analysis of Hydrological Data
- Techno-Economic Appraisal of Projects
- Monitoring of Selected Projects including those receiving central assistance
- Planning & Design of Projects
- Surveys, Investigations and preparation of Detailed Project Report (DPR)
- Studies on Environmental and Socio-Economic issues
- Studies Related to Irrigation Planning and Water Management
- Basin Planning and Management
- National Water Resources Assessment



- Assistance in Resolution of Inter-State Water Disputes
- Construction Equipment Planning
- Studies on Dam Safety
- Research and Development
- Standardization of Engineering Practices
- Operation of Reservoirs
- Training and Capacity Building
- International Co-operation in Water Sector
- Collection and Analysis of Coastal Data

## MAJOR ACTIVITIES

- **Hydrological Observations:** There is a network of 1543 Hydrological Observations Stations (1522 operational and 21 under review) and 81 exclusive meteorological stations throughout the country in all major river basins. These are meant to observe water level (gauge), discharge, water quality, silt besides selected meteorological parameters including snow observations at key stations. The data collected from such sites is scrutinized, validated and published in the form of Water Year Book, Water Quality Year Book and Sediment Year Book, etc. The data so collected is utilized for planning and development of water resources projects, climate change studies, water availability studies, flood/ in flow forecasting, examination of international and inter-State issues, river morphological studies, in land water way development, reservoir

siltation studies and research related activities, etc.

## • **Water Quality Monitoring:**

Water quality is monitored at 782 key locations (657 on HO network and 125 Water Quality Sampling Stations) covering all the major river basins of India. In addition, water quality monitoring at 88 water bodies (lakes/reservoirs/ponds) have also been started w.e.f. 01.03.2023. In a 3-tier laboratory system, Level - I laboratories located at field water quality monitoring stations observe physical parameters such as temperature, colour, electrical conductivity / total dissolved solids; pH and dissolved oxygen of river water. There are 18 Level-II laboratories located at selected Division Offices throughout India to analyze 25 physico-chemical characteristics and bacteriological parameters of water. 5 Level- III laboratories are functioning at Coimbatore, Delhi, Guwahati, Hyderabad and Varanasi where 41 parameters including heavy metals/ toxic parameters and pesticides are analysed.

The National River Water Quality Laboratory, CWC, New Delhi is accredited with National Accreditation Board for Testing and Calibration Laboratories (NABL) in accordance with Standard ISO/ IEC17025:2017 in the discipline of chemical and biological testing since April, 2016. Apart from this, 21 more Water Quality Laboratories of CWC which are

functioning under different Divisional Offices of CWC located at Hyderabad, Varanasi, Coimbatore, Guwahati, Bangalore, Agra, Kochi, Pune, Gandhinagar, Bhubaneswar, Nagpur, Lucknow, Jammu, Chennai, Raipur, Berhampore, Bhopal, Jalpaiguri, Haridwar, Surat and Patna have obtained NABL accreditation in chemical discipline.

- **Survey and Investigation:**

The survey and investigation of Kalez Khola HE Project (Sikkim) has been completed. The survey and investigations for three other projects namely, Tlawng HEP (Mizoram), Katakhal Irrigation Project (Assam) and Barinium HEP (J&K), Tuichang H.E. Project (Mizoram), Mat-Sekawi, H.E. Project (Mizoram), Buroi Medium Irrigation Project, (Assam), Damring Irrigation Project (Meghalaya), Madhura Irrigation Project (Assam) and Drass-Suru Link HE Project in UT of Ladakh are continuing. Further, DEM preparation for irrigation projects in Sitamarhi Distt. Bihar is completed. A Joint Project Office for Sapta Kosi Sun Kosi Investigations (JPO-SKSKI) based in Biratnagar (Nepal) is carrying out surveys and investigations for preparation of DPR of Sapta Kosi High Damand Sun Kosi Storage- cum-Diversion Project jointly with Nepal for mutual benefit of both the countries.

- **Project Appraisal:**

The Advisory Committee of DoWR,

RD & GR considers the techno-economic viability of Medium and Major Irrigation, Multipurpose and Flood Control Project proposals. During 2024-25, total 8 projects (2 Irrigation & 6 Flood control projects) have been considered and accepted by the Advisory Committee. A web-enabled Project Appraisal Management System (e-PAMS) has been developed by CWC for online submission and techno-economic appraisal of DPRs of irrigation and multipurpose projects submitted by the State Governments.

- **Project Monitoring:**

A three tier system of monitoring at Centre, State and Project level was entrusted to CWC. The main objective of monitoring was to ensure the achievement of physical and financial targets and achieve the targets of creation of irrigation potential. During 2023-24 (up to March 2024), Out of total 122 Major, Medium & ERM projects {99 prioritized MMI/ERM Projects (and 7 phases) total:106 included under PMKSY-AIBP in 2016-17; new included MMI/ERM Projects during 2021-22 to 2023-24: 08; Eight MMI Projects from the special package of Maharashtra & 01 special package project (RF&SF) of Punjab} taken up for monitoring. Three (03) visits were undertaken either by entirely HQ or with Regional Offices of CWC. For 99 prioritized projects (and 7 phases) under PMKSY-AIBP: 78 visits, for newly included projects

under PMKSY-AIBP: 9 visits and for 9 projects of special package: 11 visits were carried out. Each project under general monitoring is visited by the monitoring team at least twice in a year as per the prevailing guidelines of PMKSY-AIBP & National Projects and detailed monitoring report were prepared on the basis of the site visits and issued to all concerned for necessary action. Besides, these monitoring reports provide a treasure of information about the status of projects including bottlenecks.

- **Morphological Studies:**

Every year floods cause damage to life and property in spite of existing flood control measures taken both by Central and State Governments. Consultancy works form morphological studies of 15 rivers (Ganga, Sharda, Rapti, Kosi, Bagmati, Yamuna, Brahmaputra, Subansiri, Pagladiya, Krishna, Tungbhadra, Mahananda, Mahanadi, Hoogli, Tapti) by using remote sensing technology was awarded to IITs/NITs under the Plan Scheme “R&D Programme in Water Sector”.

The details and status of these studies are given below: -

Sl. No.	Institute	Name of Rivers	Status
1.	IIT Roorkee	Ganga, Sharda, Rapti	Completed
2.	IIT Delhi	Kosi, Bagmati, Yamuna	Completed

Sl. No.	Institute	Name of Rivers	Status
3.	IIT Guwahati	Brahmaputra, Subansiri, Pagladiya	Completed
4.	IIT Madras	Krishna, Tungbhadra	Completed
5.	IIT Kharagpur	Mahananda, Mahanadi, Hooghly	Completed
6.	SVNIT Surat	Tapi	Completed

- **Monitoring of Glacial lakes and water bodies:**

CWC monitors the change in water spread area of glacial lakes and water bodies in the Indian Himalayan region. In order to make inventory and monitoring of glacial lakes and water bodies present in the Himalayan Region, an MoU was signed with NRSC, Hyderabad in 2009. NRSC has prepared the Glacial Lake Inventory in the year 2011 consisting of 2028 nos of glacial lakes and water bodies (GLs/WBs) with water spread area greater than 10 Ha. CWC started monitoring of 477 Glacial Lakes and Water Bodies of size greater than 50 Ha using remote sensing techniques during the year 2011. Monitoring was carried out every year from June to October. This continued till 2021. During the year 2022, additional 425 Glacial Lakes of water spread greater than 10 Ha were included for monitoring. This add up to a total of 902 Glacial Lakes and Water Bodies. The process of monitoring of GLs/WBs has been automated to large extent to reduce processing time. The open-source

Sentinal satellite images at 10 m resolution are being used. The SAR images are also being used for detecting lakes even in cloudy condition. The monthly monitoring reports from June to October are being shared with Ministry of Jal Shakti, concerned field offices of CWC, concerned Himalayans States and other stakeholders.

- **Special Studies like Dam Break Modelling and GLOF study:**

- I. **Glacial Lake Outburst Flood (GLOF):**

CWC also carries out special studies like Dam Break Analysis, GLOF Modeling, Reservoir Routing, etc. Besides, appraising & vetting such special studies received in CWC, consultancy services are also provided by CWC for them. In 2024-25, GLOF reports for 39 nos. of projects have been appraised, out of which GLOF reports of 25 projects approved by CWC, while observations issued for 14 nos. of projects.

Besides above, MoU with NEEPCO for GLOF study on consultancy basis for 05 nos. of projects, namely Heo, Tato-I, Tato-II, Naying and Hirong HEP, in Siyom Basin of Arunachal Pradesh was signed. The study has been completed and report shared with the project authority i.e. NEEPCO.

- ii. **Dam Break Analysis:**

The Dam Break Analysis of Baglihar Dam, Jammu & Kashmir has been carried out on

consultancy basis. The report has been prepared. Similarly, the Dam Break Analysis of Mirzapur Dam (Punjab), Upper Khajuri Dam, Lower Khajuri Dam & Jirgo Dam (Uttar Pradesh) under DRIP Ph-II is completed.

- **Flood Plain Zoning:**

In order to have a reasonable degree of protection, floods need to be managed through both structural & non-structural measures so as to reduce the losses. Non-structural measures are planned activities to modify susceptibility due to flood related damages. These are meant to keep people away from floods. Flood Plain Zoning is one of the main non-structural measures for management of floods worldwide.

A technical committee under the chairmanship of Member (RM) was constituted during November 2022 for formulation of 'Technical Guidelines on Flood Plain Zoning'. After due deliberations, the committee submitted the guidelines to Ministry. The guidelines are presently under circulation to the states for their comments/review. Once implemented, these guidelines shall serve as a valuable document in guiding the states in framing their own legislation in protecting their rivers from future encroachments.

- **E-Flow Monitoring:**

Vide Gazette Notification dated 9th October, 2018, the Government of India has notified the minimum environmental flows for River Ganga that has to be maintained at

various locations on the river. Environmental flows are the acceptable flow regimes that are required to maintain a river in the desired environmental state or predetermined state. The maintenance of minimum e-flow in the river would not only ensure sustenance of aquatic life but also go a long way in ensuring its continuous flow in the river. It will ensure that the river has at least the minimum required environmental flow of water even after the river flow gets diverted by projects and structures for purposes like irrigation, hydro-power, domestic and industrial use etc.

The above order will apply to the upper Ganga River Basin starting from originating glaciers and through respective confluences of its head tributaries finally meeting at Deva Prayag up to Haridwar and the main stem of River Ganga up to Unnao district of Uttar Pradesh. The compliance of minimum environmental flow is applicable to all existing, under construction and future projects. The existing projects which currently do not meet the norms will have to ensure that the desired environmental flow norms are complied with within a period of three years. The mini and micro projects which do not alter the flow characteristics of the river or stream significantly are exempted from these environmental flows.

Presently, e-flow monitoring for 11 River Valley Projects are being done by CWC. The quarterly report is being submitted to NMCG.

- **Coastal Management Information System (CMIS):**

CWC initiated development of Coastal Management Information System (CMIS)" under the Plan Scheme DWRIS during the 12th Five Year Plan Period. The CMIS envisages setting up of sites along the coast of the maritime States/UTs of India for collecting and analyzing data of Nine coastal parameters i.e. Wave, Current, Tide, Riverine Data, Wind, Coastal Sediment, Beach Profile, Bathymetry and Shoreline Change. CMIS also envisages to create an integrated data bank to tackle coastal engineering problems along the vulnerable stretches of Indian coast in a scientific manner keeping in view the long term perspective and challenges of climate change for evolving long term coastal management plans and coastal protection measures.

CWC started implementation of CMIS in Maritime States/UTs through the signing of a tripartite Memorandum of Understanding (MoU) with CWC as 'Project Implementer', the expert agency as 'Project Executor' and the concerned State/ UT Government as 'Project Facilitator'.

Establishment of 3 coastal data collection sites (Devanari-Tamil Nadu, Karaikal-Puducherry and Ponnani-Kerala) has been completed under this project and the sites were taken over by CSRO, CWC, Coimbatore on 31.05.2021 from IIT Madras. The CMIS data collection at 5 other sites (Satpati-Maharashtra, Nanidanti



Motidanti-Gujarat) (Tarkhali-Maharashtra, Benaullim- Goa, Baga-Goa) are being executed through CWPRS, Pune and NIO, Goa respectively. These activities are under implementation through respective CWC field offices of MTBO, Gandhinagar and UKD, Pune.

The data gathered under CMIS is utilized for various purposes, including identifying the causes of erosion, estimating sediment transport, supporting the design of coastal protection structures, validating numerical models, and developing both short-term Coastal Protection Plans (CPPs) and long-term Coastal Management Plans (CMPs). The standardized and centrally-stored data is shared with relevant stakeholders, including State and Union Territory governments, to enable evidence-based decision-making for coastal protection and management.

Through CMIS, the Government of India is adopting a scientific approach to address coastal challenges, including erosion, while also factoring in long-term climate change impacts.

- **Quarterly Dialogue on Coastal Area Management:**

The quarterly dialogues on Coastal Area Management, initiated as per the direction of the Chairman, Central Water Commission (CWC) was held in April and May 2024. These dialogues brought together stakeholders from various levels of government, research institutions, and relevant departments to discuss pressing issues such as coastal erosion, salinity ingress, and the need for

robust data collection and management. The dialogues provided a platform for sharing information, best practices, and innovative solutions from all stakeholders. As an outcome of the Quarterly Dialogue, CWC has published a report titled “Status Report on Coastal Area Management- An Indian Perspective, Region Issues & Remedial Measures”. The report provides a comprehensive overview of the challenges and initiatives related to coastal management in India. The report highlights the significant impacts of coastal erosion and salinity ingress, emphasizing the need for robust data collection, effective mitigation strategies, and increased collaboration among stakeholders.

- **Hydrological Studies:**

The success of a project is largely governed by the hydrological inputs. The success of a project is largely governed by the hydrological inputs. The Hydrological Studies Organization (HSO), a specialized unit under Design and Research (D&R) Wing of CWC, carries out hydrological studies in respect of the water resources projects in the country. The inputs in Detailed Project Report (DPR) or Pre- Feasibility (PFR) stage are made available in the form of:

- » Water availability/yield studies.
- » Design flood estimation.
- » Sedimentation studies.

- » Diversion flood studies.

The country has been divided into 7 zones and further into 26 hydro-meteorologically homogeneous sub-zones and flood estimation models are developed for each subzone to compute the design flood in ungauged catchments. So far, flood estimation reports covering 24 sub-zones have been published. During the year 2024-25, technical examinations of hydrological aspects of DPRs in respect of 88 projects have been carried out in CWC. Out of this, 46 projects have been cleared and comments were issued for 17 projects. Rest of the projects are under examination:

Some of the major works carried out during this period are:

- » Flood frequency analysis & carrying capacity of Yamuna River from Hathnikund Barrage to Delhi.
- » Hydrology Chapter for Bakchachuu HEP, Ringyang HEP, & Rimbi Khola HEP has been submitted.
- » 100 yr & 500 yr Return Period flood of Chandrawal River under Ken Betwa Link project.
- » Water Availability of the untapped catchment between alignment of feeder canal, Mahalpur barrage and Navnera Barrage Under MPKC link.
- **Technical Assistance / Advice tendered:**
  - » HSO has provided secretariat

assistance to various technical/ expert committees for undertaking special studies on various aspects related to water resources development and management. Some of the important contributions during the year 2024- 25 are as under:

- » Hydrological Studies for Ponnaiyar River Basin, to resolve the interstate issue between Tamil Nadu and Karnataka.
- » Hydrological modeling for heavy rainfall across the Yamuna River catchment in July 2023 caused significant runoff and discharge, leading to rapid water level rises. In this study estimated submergence areas for different return-period floods, analyzed embankment overtopping, and identified drainage congestion and afflux of existing structures using 2-D modeling for the river reach between 21 km upstream of Wazirabad barrage and 10 km downstream of Okhla barrage.
- » Hydrological modeling for tackling issues related to high intensity rainfall, riverine flood, drainage and interrelated issues in urban areas.

- **Planning and Design of Water Resources Projects:**

CWC is actively associated with design of majority of the mega water resources projects in India and neighboring countries, viz., Nepal and Bhutan by way of design

consultancy or in the technical appraisal of the projects. At present CWC is providing design consultancy to 94 projects. Out of this, 31 projects (including 3 from neighboring countries) are at construction stage, 35 projects (including 2 from neighboring countries) are at DPR stage and 28 projects involve special problems.

- **National Committee on Seismic Design Parameters:**

The National Committee on Seismic Design Parameters (NCSDP) was constituted by MoWR Order dated 21st October, 1991 with the objective to recommend the seismic design parameters for the proposals received from the dam owners. Member (D&R), CWC is the chairman of the committee with 12 other experts from various engineering disciplines from different technical institutions and Government organizations as its members. Director (FE&SA), CWC is the member Secretary of NCSDP. The 38th meeting of NCSDP was held on 10.05.2024 at CWC, New Delhi under the Chairmanship of Member (D&R) wherein six projects were cleared.

Further, a special meeting of NCSDP was held on 05.06.2024 wherein the Guideline for Preparation and Submission of Site-Specific Seismic Study Report of River Valley Project to National Committee On Seismic Design Parameters was revised comprehensively to be in line with the International practices.

- **National Register of Large Dams:**

Before enactment of Dam Safety Act 2021, Dam Safety Organisation (DSO), CWC compiled and maintained the register of large dams across the country in the form of National Register of Large Dams (NRLD) based on information provided by State Govts. /PSUs. After enactment of Dam Safety Act 2021, the NDSA has been mandated to maintain National level database of all specified dam in the country. The National Register of Specified (Large) Dams 2023 was released by Hon'ble Vice President of India in International Conference on Dam Safety held during 14th-15th September 2023 at Jaipur. As per NRLD- 2023, there are 6138 constructed and 143 under construction dams in the country. The NRLD, 2023 is available on CWC's website and can be accessed by link <https://cwc.gov.in/publication/nrld>.

- **Technical Examination of Instrumentation aspects of the projects:**

1. **Hydroelectric project:**

Detailed Project Report (DPR)/ construction drawings of 29 river valley projects in various States/ countries namely Andhra Pradesh, Arunachal Pradesh, Gujarat, Himachal Pradesh, Madhya Pradesh, Meghalaya, Odisha, Sikkim Uttarakhand, West Bengal, Jammu & Kashmir, Bhutan and Nepal were examined, out of

which 4 projects have been cleared with respect to instrumentation aspects and remaining 25 projects are at various stages of examination.

## **2. Pumped storage Project:**

Detailed Project Report (DPR)/ construction drawings of 42 river valley projects in various States/ countries namely Andhra Pradesh, Chhattisgarh, Gujarat, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Tamil Nadu and Uttar Pradesh were examined, out of which 6 projects have been cleared with respect to instrumentation aspects and for remaining 36 projects, clearance from instrumentation aspects is no longer required as per the latest CEA guidelines.

- **Standing Technical Advisory Committee of CSMRS:**

The Standing Technical Advisory Committee (STAC) was constituted under the Chairmanship of Member (D&R), CWC for providing an overall perspective and guidance in technical scrutiny of research schemes being undertaken at CSMRS. The STAC is composed of 11 members drawn from various public sector institutions and is headed by Member (D& R), CWC. The 39th Standing Technical Advisory Committee (STAC) meeting of CSMRS was held on 25.10.2024.

- **Other Seismic works:**

Work related to technical evaluation and critical examination of web-based tool Seismic Hazard Assessment Information System (SHAISYS) being developed by IIT Roorkee and CWPRS Pune under DRIP is being carried out. A meeting is proposed on 18th December 2024 under the chairmanship of Member (D&R), CWC with the expert of IIT Roorkee at CWC, New Delhi regarding way forward for development of SHAISYS.

- **Establishment of International Centre of Excellence:**

Dam Rehabilitation and Improvement Project (DRIP) Phase-II and Phase- III provides for establishment of two Centres of Excellence (CoE) for adapting the advances in dam engineering across the world and developing technologies relevant to Indian conditions. These centers shall have state of the art facilities to provide leadership, best practices, research, support and training in dam engineering. The services of these centers of excellence could be utilized by the dam fraternity in India to get consultancy for addressing their dam safety issues as well as training of dam engineers.

CoEs have been established at IIT Roorkee and IISc Bangalore after signing MoAs with IIT Roorkee and IISc Bangalore on 14th February 2023 and 4th March 2024, respectively.

- **Dam Rehabilitation and Improvement Project (DRIP) Phase-II and III:**

Dam Rehabilitation and Improvement Project (DRIP) is an externally aided project with financial assistance from the World Bank, targeting rehabilitation of some of the selected dams of the Country along with accompanying institutional strengthening component. Based on the success of DRIP Phase- I, Ministry of Jal Shakti initiated another externally funded scheme, DRIP Phase-II and Phase-III. The Union Cabinet has approved the Scheme on October 29, 2020.

The scheme has provision for rehabilitation of 736 dams located in 19 States (Andhra Pradesh, Chhattisgarh, Goa, Gujarat, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Odisha, Punjab, Rajasthan, Tamil Nadu, Telangana, Uttar Pradesh, Uttarakhand, West Bengal, and three Central Agencies (Central Water Commission, Bhakra Beas Management Board, and Damodar Valley Corporation). It is a State Sector Scheme with Central component, with duration of 10 years, to be implemented in two Phases I.e. Phase- II and Phase-III, each of six years' duration with an overlap of two years. The budget outlay is Rs 10,211 Cr (Phase II: Rs 5107 Cr; Phase III: Rs 5104 Cr) with rehabilitation provision of 736 dams. Out of this cost, Rs. 7,000

crores are an external loan and Rs. 3,211 crores would be borne by the respective participating States and the three Central agencies. The funding pattern of scheme is 80:20 (Special Category States), 70:30 (General Category States) and 50:50 (Central Agencies). The scheme also has provision of Central Grant of 90% of loan amount for special category States (Manipur, Meghalaya and Uttarakhand). The DRIP Phase-II and III Scheme is 10 years' duration, proposed to be implemented in two Phases, each of six-year duration with two years overlapping. Each Phase has external assistance of US\$ 500 M. The Phase-II of the scheme is being co-financed by World Bank and Asian Infrastructure Investment Bank (AIIB), with funding of US\$ 250 million each. The loan agreement by World Bank was signed on August 04, 2021 with 10 States (Gujarat, Kerala, MP, Maharashtra, Manipur, Meghalaya, Rajasthan, Odisha, Tamil Nadu, and Chhattisgarh) and became effective from 12th October, 2021. In addition to 10 States, four States (Uttarakhand, Uttar Pradesh, West Bengal and Karnataka) have been notified by World Bank for inclusion under this scheme in June 2022 and their loan declared effective in January 2023.

The loan agreement by AIIB was signed on 19th May, 2022 with 10 States (Gujarat, Kerala, MP,



Maharashtra, Manipur, Meghalaya, Rajasthan, Odisha, Tamil Nadu, and Chhattisgarh) and declared effective on 29th December, 2022 by AIIB.

- **Support for Irrigation Modernization Program (SIMP):**

Support for Irrigation Modernization Program (SIMP) is a new initiative taken up by DoWR, RD & GR with Technical Assistance (TA) from the Asian Development Bank (ADB) to modernize Major/Medium Irrigation (MMI) projects in the country. Objective of the programme is to improve water use efficiency, increase crop water productivity and ultimately increase farmer's income in the command area of the project through application of national/international best practices. For overall implementation and management of the programme, a Central Irrigation Modernization office (CIMO) has been setup under Chief Engineer (POMIO), CWC supported by national/international consultants.

SIMP is proposed to be taken up in 4 phases. SIMP Phase-1 concluded on 31.12.2021 under which 4 MMI projects have been identified for inclusion under 1st batch of projects for preparation of Irrigation Modernization Plans (IMPs) out of the 57 proposals received from 14 States and 2 UTs. The entire process including the preparation of IMPs, Detailed

Project Report (DPRs), detailed designs and final implementation/project execution is expected to be completed by Phase-4. Implementation of the project would lie with the concerned States who would have an option to either fund it from their own resources or they can avail loan facility from ADB or any other financial institutions.

SIMP Phase-2 was initiated from November 2022. Irrigation Modernization Plan (IMP) of four projects namely Vanivilasa Sagara Project, Karnataka, Palkhed Project Maharashtra, Purna Project, Maharashtra and Loharu Lift Irrigation Project, Haryana have been prepared. As a 1st step for preparation of IMPs, FAO developed RAP-MASSCOTE (Rapid Appraisal Procedure-Mapping System and Services for Canal Operation Techniques) workshops were organized to assess the present status of the identified four projects. The findings of RAP MASSCOTE workshops and issues related to Batch 1 SIMP projects were discussed in a mid-term workshop organized by ADB and CWC on 09.06.2023 at New Delhi.

The Preliminary Project Reports (PPR) of all the four projects has been submitted by ADB to the concerned project authorities. PPR of Loharu, Haryana is under process with Govt department. PPR of Palkhed and Purna, Maharashtra is under process in Planning Department of Haryana, PPR of

VVS, Karnataka is under process with state finance Govt of Maharashtra. PPRs are to be finalised by the states and submitted to DEA. After necessary approval from DEA, action for phase-3 will be taken up for preparation of DPRs.

- **Reservoir Sedimentation Assessment Studies:**

Central Water Commission has taken up sedimentation assessment studies of selected reservoirs located all over the country using Hydrographic Survey and Satellite Remote Sensing technique. During the Year 2020-21, under National Hydrology Project (NHP) Phase-I, sedimentation assessment study for 32 reservoirs have been completed in all respect. In phase -II, similar studies in respect of 87 reservoirs located in 10 States (Rajasthan, Gujarat, Uttar Pradesh, Uttarakhand, Madhya Pradesh, Maharashtra, Andhra Pradesh, Kerala, Telangana, and Odisha) have been taken up through outsourcing. Studies in respect of 61 reservoirs have been completed and reports published. The works of the remaining 26 reservoirs are under progress at different stages.

- **Reservoir sedimentation studies using Remote Sensing:**

Central Water Commission has also undertaken sedimentation assessment studies of selected reservoirs located in various States using Satellite Remote Sensing

technique under the plan scheme "Research & Development Programme in Water Sector".

It is planned to take up the studies in respect of 80 reservoirs during 2021-26. Accordingly, the work of carrying out the study for the first batch of 40 reservoirs was outsourced. Due to non-availability of either the desired water levels or satellite data for a reservoir on date of satellite pass, study in respect of 31 reservoirs was feasible which has been completed and reports published during 2022 to 2024. Besides this sedimentation studies in respect of 30 reservoirs have been completed in-house using Remote Sensing Techniques.

Furthermore, a Google Earth Engine-based tool has also been developed by CWC officers, in-house under Smart Water Resources Modelling Organization (SWRMO) - Centre for Excellence, to automate the assessment of sedimentation in the live storage zone of reservoir.

- **Monitoring of Major Reservoir Storage:**

CWC is monitoring live storage status of reservoirs of the country on weekly basis and issues weekly bulletin on every Thursday. 155 reservoirs are being monitored having total live storage capacity of 180.852 BCM which is about 70.15% of the live storage capacity of 257.81 BCM estimated to have been created in the country. Out of

these reservoirs, 20 reservoirs are of hydro-electric projects having total live storage capacity of 35.299 BCM. The weekly bulletin contains current storage position vis-à-vis storage status on the corresponding day of the previous year and average of last 10 years on the corresponding day. Weekly Bulletin is shared with PMO, NITI Aayog, MoJS, MOP, MOA&FW, IMD, and the Water Resources Departments of concerned States and is also uploaded on CWC's website. This weekly bulletin is also shared with Crop Weather Watch Group (CWWG) of the Ministry of Agriculture and Farmers Welfare of which representative of CWC is also a member. The meeting of CWWG is convened on every Friday to review agricultural activities across the country and to suggest remedial measures to States in case of distress situation.

- **25th International Congress and 74th IEC of ICID:**

The Indian National Committee for Irrigation & Drainage (INCID) is India's representative national committee in the International Commission on Irrigation & Drainage (ICID). INCID is headed by Chairman, Central Water Commission.

INCID organized the 25th International Congress & 74th IEC Meeting of ICID at Radisson Blu Resort, Vishakhapatnam (Vizag), Andhra Pradesh during 2-8th,

November, 2023 in partnership with the State Govt of Andhra Pradesh, CWC and ICID. This marked the return of the prestigious ICID Congress to India after a gap of almost 6 decades. The ICID Congress and IEC had participation of about 1200 delegates from about 45 countries. The 25th ICID Congress was jointly inaugurated by the Hon'ble Minister (Jal Shakti), Govt of India and the Hon'ble Chief Minister of Andhra Pradesh. The Hon'ble Minister (Jal Shakti), Govt of India delivered in the inaugural N D Gulhati Memorial Lecture.

The theme for the 25th ICID Congress was 'Tackling Water Scarcity in Agriculture' and detailed deliberations were held to address these issues in the form of two questions.

- » *Alternative water resources could be tapped for irrigated agriculture*
- » *On-farm techniques can increase water productivity*

Various Technical sessions, Technical Tours, Cultural Evening, Cultural Tours, Industry Session. Etc. were organized during the event along with Technical sessions of the various Working Groups of ICID and IEC Meetings of ICID.

**ICID WHIS Awards - 2023 to India:** ICID, every year, announces awards namely: World Heritage Irrigation Structures (WHIS) and the Water Saving (WatSave) awards. India has won 4 nos of WHIS awards 2024 for irrigation

structures, namely: (i) Martland Canal (Jammu and Kashmir), (ii) Nandi Canal (Jammu and Kashmir), (iii) Kanigiri Reservoir (Andhra Pradesh) and (iv) Dhuty Weir (Madhya Pradesh). Also, India won 1 WatSave award in 2024 for WALMI (Dharwad) under Management Category Central Water.

- **National Water Academy:**

National Water Academy conducted various trainings / workshops in CWC headquarter and its field offices. In addition to above, some officers participated in trainings, workshops and conferences organized by various nationals and international organizations during 01.04.2024 to 31.12.2024.

As a follow-up of Workshop on Training Need Assessment specific programs viz. Faculty Development Program; Customized programs for Hilly States /North Eastern Region; Program on Emerging Technologies like Google Earth Engine, Python Programming, Artificial Intelligence (AI), Machine Learning (ML), Deep Learning (DL) and Data Driven Decision making in Government; Irrigation Water Management etc were conducted during the period.

**Training Programs on Dam Safety Aspects:** Further, with an objective to build capacity of dam owners in various aspects related to Dam Safety with an effort to improve their competency & skills for implementation of various provisions in the act, focussed

trainings were conducted on topics of DHARMA, Procurement of Goods & Services, Design Flood Analysis, Dam Break Analysis, Emergency Action Plan, Structural Safety, Dam Instrumentation, Webinar on Dam Safety etc.

**Specialized Programs** were organized during the period covering the topics on Pumped Storage Hydroelectric Project; Analysis of Quality of Water Quality (WQ) Data; Coastal Erosion Protection and Coastal Zone Management; Irrigation Modernization & PDN Design, Conventional Flood Forecasting, Water Pricing, Urban Flood Management etc.

**Foreign Training:** On the specific request of MEA two customized training for the officers of Government of Nepal under ITEC Scheme of MEA was conducted.

**Mass Awareness:** The academy also organized mass awareness programs targeting School Teachers & DIET Faculty; NGOs, Media Professionals & Civil Society; and PRIs, Farmers, WUAs etc.

- **CWC Activities under National Hydrology Project (NHP):**

- » Study on “Physical based Mathematical Modelling for estimation of Sediment Rate and Sediment Transport in Seven River Basin” has been completed.
- » Extended Hydrological Prediction (multi week

forecast) for Yamuna, Narmada and Cauvery basins is in progress.

- » Reservoir Sedimentation Studies using Hydrographic survey for 32 reservoirs” under Phase-I has been completed. Works of Phase II: Consists of 87 reservoirs in 10 states (Rajasthan, Gujrat, Uttar Pradesh, Uttarakhand, Madhya Pradesh, Maharashtra, Andhra Pradesh, Kerala, Telangana, and Odisha) is under progress.
- » Supply, Installation, Testing & Commissioning (SITC) of 93 Nos. ADCP (14 + 29 + 50 in three phases) for the measurement of discharge at the HO sites of CWC has been completed. Further procurement of additional 46 nos ADCP and 8 nos Total station is in under progress.
- » Supply, Installation, Testing & Commissioning (SITC) of 32 velocity radar sensors for modernization of discharge observations has been completed.
- » 7 nos of Water Quality Equipment (ICP-MS and GC-MS) have been commissioned and installation & Commissioning of 3 more Water Quality Equipment (1 GC-MS and 2 ICP-MS) is under process.
- » Consultancy services for “Early Flood Warning System Including Inundation Forecast in Ganga Basin” is in progress.
- » Consultancy services for Development of Decision

Support System near to real time for “Integrated Reservoir Operation System of Ganga Basin” has been completed.

- » Real Time Data Acquisition System (RTDAS) for Narmada Control Authority (NCA) and Arunachal Pradesh comprising of network of 48 & 50 nos hydro meteorological Stations respectively has been commissioned.
- » Reservoir Sedimentation Studies using Hydrographic survey for 32 reservoirs under National Hydrology Project, Phase-I have been completed and reports published and under Phase II studies in respect of 87 reservoirs are taken up.

Modernization of training facilities in NWA Pune & Modernization of Water Quality Monitoring activity by providing state of art equipment.

- **Flood Plain Zoning:**

Draft “Technical guidelines on Flood Plain Zoning” sent to DoWR, RD&GR for finalization. The Guidelines will support respective State Governments in framing their own flood plain zoning legislations.

CWC undertook works of delineation and demarcation of floodplain zones on river Yamuna for the stretches from Asgarpur (d/s of Okhla barrage to Prayagraj) upon request from the Government of Uttar Pradesh.

- **Criteria for Risk Indexing of Glacial Lakes in the Indian Himalayan Region:**



CWC finalized the criteria for Risk Indexing of Glacial Lakes in the Indian Himalayan Region in September 2024, which provide a comprehensive methodology for identifying and categorizing Glacial Lakes based on factors such as Glacial Lake size, Glacial Lake type, Side slope, Snout distance from GL etc. and the potential socio-economic impacts of a Glacial Lake Outburst Flood.

- **Revival of Swarnrekha River, M.P.:** CWC submitted a report on revival of Swarnrekha River, Gwalior, Madhya Pradesh on the direction of Hon'ble High Court of Madhya Pradesh, Gwalior Bench.

### 7.1.2 CENTRAL SOIL AND MATERIAL RESEARCH STATION (CSMRS)

The Central Soil and Materials Research Station (CSMRS), New Delhi, an attached office of DoWR, RD & GR, was established in 1954. CSMRS is an ISO 9001:2015 certified organization and deals with field and laboratory investigations, research and problems in geotechnical engineering, concrete technology, construction materials and associated environmental issues, having direct bearing on the development of irrigation and power in the country and functions as an adviser and consultant in the above fields to various projects and organizations in India and abroad. The Research Station is involved in the safety evaluation of existing hydraulic structures and quality control and quality assurance of construction for various river valley projects. The sphere of activity of CSMRS comprises the following key areas:

- The soil discipline deals with soil characterization, rock fill material characterization and geosynthetics material characterization. This discipline conducts foundation investigations for assessing the competency of the foundation strata for the construction of structures and borrow area investigations for ascertaining the suitability of the soils collected from the borrow area to be used for the construction of the structures. It also carries out studies on expansive and dispersive soils, hydraulic fracturing of core materials, quality control, quality assurance, dynamic characterization of soil, and numerical modelling based research in this area.
- The rock discipline deals with in-situ rock mass characterization, laboratory assessment of intact rocks, geophysical investigations and geotechnical instrumentation. This discipline conducts laboratory investigation of intact rock, in-situ tests for determination of shear strength properties, deformability characteristics of rock mass, in-situ stress measurements, groutability tests in rock and rock bolt/ anchor pull-out tests. It carries out investigations using the geophysical methods to decipher the sub-surface ground conditions, delineation of bed rock, thickness of overburden, detection of geological anomalies, blast vibration monitoring studies etc. It is also involved in health monitoring of the

structures through instrumentation, geophysical studies and numerical modelling.

- The concrete discipline deals with construction materials characterization, concrete mix design, special studies on concrete and non-destructive diagnosis of the concrete structures. It carries out special tests for concrete durability assessment, under water abrasion test, concrete permeability test, testing of epoxy materials, alkali aggregate reactivity study etc. It also carries out chemical characterization of all construction materials including the admixtures. It provides consultancy for quality control and quality assurance services for concrete structures. It is also involved in diagnostics health monitoring, repair and rehabilitation of structures, durability of concrete etc.

CSMRS undertakes consultancy works primarily pertaining to the projects in the area of water resources sector; in the domain of investigation with reference to laboratory and in-situ testing for foundations on soils and rocks and investigations for the construction materials such as concrete (and its constituents), soil, geo synthetics, rockfill. The consultancy work comprises suggestions, based on the recommended parameters of the investigated materials (required for the design of structures) and remedial measures to be adopted for the problems encountered in the project.

## INVESTIGATIONS FOR PROJECTS

Fourty four projects, including one international project, one project in North-East region of India and one interlinking projects were investigated. The investigations comprised field and laboratory investigations in the areas of soil, rock, rockfill, geosynthetics, concrete and its constituents. The investigated projects are as under:

### International Projects

- Tanahu Hydroelectric Project, Nepal

### North Eastern Project

- Myntdu Leshka St. II HEP, Meghalaya

### Interlinking Projects

- Pailani Barrage Ken Betwa Link Canal Project, Uttar Pradesh

### National Projects:

- Somb Saraswati Reservoir Scheme, Adi Badri Project, Haryana
- Atunli Hydroelectric Project, Arunachal Pradesh
- Baglihar Hydroelectric. Project, JKSPDC, Chanderkote, Ramban District, J & K
- Bastawa Mata and Indroka Dam Projects, Rajasthan
- Baruasagar Lake Project, Jhansi, Uttar Pradesh
- Bhivpuri Pumped Storage Project, Maharashtra
- Bhavali Pumped Storage Project (1500 MW), Nashik, Maharashtra
- Chamera-1 Dam Project, NHPC, H.P
- Chitravati Pumped Storage Project (500 MW), Andhra Pradesh

- Chichlik Pumped Storage Project (1560MW) Uttar Pradesh
- Farakka Barrage Project, West Bengal
- Hirakud Dam Project, Odisha
- Idukki Extension Scheme Hydroelectric Project (740 MW), Kerala
- Kanhar Irrigation Project, Uttar Pradesh
- Karam Dam Project, Madhya Pradesh
- Kandhaura Pumped Storage Project (1680 MW), Uttar Pradesh
- Koteswar Hydroelectric Project, THDC, Uttarakhand
- Kosi-Mechi Intra-State Link Canal Project, Bihar
- Lakhwar Multipurpose Project, Uttarakhand
- Medigadda Barrage (Kaleswaram Irrigation Project), Telengana
- Nathpa Jhakri Hydroelectric Project, Himachal Pradesh (SJVN)
- NMDC, Earthen Dyke at SP-II Tailing Dam-I, Donimalai, Karnataka
- Obra Dam, Uttar Pradesh
- Panchnad Irrigation Project, Auriaya, Uttar Pradesh
- Pinnapuram Pumped Storage Project (1680 MW), Andhra Pradesh
- Polavaram Irrigation Project, Andhra Pradesh
- Reoli Dugli Hydroelectric Project, Himachal Pradesh
- Renukaji Dam Project, HP
- Rihand Dam Project, Uttar Pradesh
- Rukura Dam project, Odisha
- Sardar Sarovar Project, Gujarat
- Shahpurkandi Dam, Punjab
- Shirwata PSP, Pune, Maharashtra
- Sholayar Dam, Tamil Nadu
- Sillahalla PSP, Tamil Nadu
- SMC Barrage, Surat, Gujarat
- Sunni Dam Project, Himachal Pradesh
- Tarali Pumped Storage Project (1500 MW), Satara, Maharashtra
- Tehri Dam Project, THDC, Uttarakhand
- Vishnugad Pipalkoti Hydroelectric Project, Uttarakhand
- Vyasi Hydroelectric Project, Uttarakhand

#### Important achievements of CMSRS during 2024-25:

Success Indicators	Achievements (number)
Technical reports brought out / published	67
Publication of Research Papers	54
Evaluation of Detailed Project Reports and	21
Technical comments on compliance to DPR	37
Training programme organized	08

#### SELF- SPONSORED RESEARCH SCHEMES:

The self-sponsored research schemes currently in progress are as follows:

- Assessing the Effect of Fines on Liquefaction Potential of Solani Sand using Cyclic Simple Shear Test.
- Effect of Breakage Factor on Shear Strength Parameters.

#### INSTITUTIONAL COOPERATION

CSMRS is having institutional cooperation

with the following Institutes / Departments:

- Norwegian Geotechnical Institute, Norway – Cooperation in the fields of geotechnical engineering and construction materials
- Satluj Jal Vidyut Nigam Limited – Cooperation in geotechnical investigation and construction material survey of hydroelectric projects.
- NEHARI, Brahmaputra Board, Assam - Cooperation in the fields of geotechnical engineering and construction materials including training of officers of NEHARI.

## 7.2 SUBORDINATE OFFICES

### 7.2.1 CENTRAL GROUND WATER BOARD (CGWB)

Central Ground Water Board (CGWB) is a scientific organization under the Department of Water Resources, River Development & Ganga Rejuvenation, Ministry of Jal Shakti, Government of India. It is responsible for all aspects of ground water surveys, exploration, development, and management. CGWB is a multidisciplinary organization with a mandate to develop and disseminate technologies for the scientific and sustainable development and management of India's ground water resources. Central Ground Water Board was formed in 1970 by renaming erstwhile Exploratory Tube Well Organization. Subsequently, Ground Water Division of Geological Survey of India got merged with it in 1972. The Board was placed under various ministries in the past and since 1982, it is an organization under

Department of Water Resources, River Development and Ganga Rejuvenation, Ministry of Jal Shakti, Government of India.

The Board has around 600 scientists, 150 engineers, and 3,250 supporting staff. The Board is headed by the Chairman and has five Members who look after 18 Regional offices, 17 Divisional offices and 10 State Unit offices throughout India and also perform other specified functions. Also, five permanent Members of the Board represent various ministries and agencies.

### Major Activities of Central Ground Water Board (CGWB)

Most of the activities of the Board are undertaken as a part of the Central Sector Scheme titled 'Ground Water Management and Regulation (GWMR) scheme'. In addition to above, CGWB is an implementing agency of National Hydrology Project (NHP). CGWB also implements specific components of other schemes of DoWR, RD & GR like i) RGNGWTRI component of HRD and Capacity Building scheme ii) Ground Water component of the PMKSY – HKKP scheme iii) supporting implementation of Atal Bhujal Yojana. A brief of activities and achievements of CGWB is given below:

- **National Aquifer Mapping and Management Program (NAQUIM):**

Central Ground Water Board (CGWB) is implementing National Aquifer Mapping and Management program (NAQUIM), which envisages mapping of aquifers (water bearing formations), their characterization and development of Aquifer Management Plans to

facilitate sustainable management of ground water resources. NAQUIM was initiated in 2012 as a part of the GWMR plan scheme with the objectives to delineate and characterize the aquifers and develop plans for ground water management. Out of 32 lakh km<sup>2</sup> of the entire country, entire mappable area of 25 lakh km<sup>2</sup> has been covered under this programme. NAQUIM outputs are shared with various stakeholders including the District Authorities.

NAQUIM 2.0 was initiated in 2023 with broad objectives of i) providing information in higher granularity with a focus on increasing density of dynamic data like ground water level, ground water quality etc. ii) providing issue based scientific inputs for ground water management upto Panchayat level, iii) providing printed maps to the users and iv) putting in place a strategy to ensure implementation of the recommended strategies. Also involving state agencies in the studies for a sense of ownership. An area of nearly 44000 sqkm is being covered in 76 studies in year 2023. The inception reports of studies have been shared with concerned State Government.

- **High resolution aquifer mapping and management in Arid areas of India:** Central Ground Water Board (CGWB), has initiated high resolution mapping of aquifers using modern heli - borne geophysical survey in parts of the

arid areas spread over the states of Rajasthan, Gujarat and Haryana. The study is aimed at establishing aquifer geometry, demarcation of de-saturated and saturated aquifers, identification of paleochannels network, identification of potential sites for ground water withdrawal and identification of sites for water conservation structures, MAR sites etc.

In Phase-I survey work of the project, covering an area of 97165 sq.km and 40313-line km flight line has been completed covering 92 Blocks in Rajasthan, Gujarat and Haryana states. The information at Gram Panchayat level is being extracted along the flight line from the heliborne survey results. Out of 92 blocks, Gram Panchayat level report of 36 blocks has been prepared. The study was carried out in collaboration with CSIR-NGRI.

- **Ground water level monitoring:**  
Ground water level monitoring is one of the key activities of Central Ground Water Board (CGWB). The primary objective of ground water monitoring is to record the response of various natural and anthropogenic stresses on the groundwater regime which impacts the recharge and discharge parameters. At present, CGWB has a network of nearly 27,000 ground water observation wells throughout the country. The ground water levels are measured four times a year during the months of January, March/April/ May, August and November.



- **Geophysical Studies:**

Geophysical studies employ non-invasive techniques, offering indirect insights into the disposition and characteristics of aquifers. The Central Ground Water Board (CGWB) possesses an in-house facility for various geophysical studies. Both surface and subsurface (well logging) geophysical techniques are extensively utilized in the quest for groundwater and the proper construction of water wells. The results of geophysical studies are amalgamated with hydrogeological investigations to establish a robust foundation. Transient Electromagnetic techniques (TEM) have been introduced to identify sub-surface layer parameters like resistivity and thickness, similar to Electrical Resistivity surveys. TEM surveys, despite providing comparable information, require less time than conventional Electrical Resistivity surveys. CGWB is currently conducting advanced 2-D Imaging surveys using a Multi Electrodes Resistivity Meter for special studies and aquifer mapping.

During 2024, CGWB through its field offices carried out nearly 2000 geophysical surveys (Vertical Electrical Sounding (VES), Transient Electromagnetic (TEM) studies).

- **Exploratory Drilling:**

Ground water exploration is one of the core activities of Central Ground Water Board. Drilling aided ground

water exploration provides direct information about disposition and characteristics of the aquifers. Every year around 700 wells are drilled by CGWB for ground water exploration through in-house resources. CGWB has a fleet of 78 operational drilling rigs and has capability to construct wells in various types of terrain in the country. In view of enhanced requirements of ground water exploration under the NAQUIM programme, CGWB has also taken up exploratory drilling through outsourcing. After conducting necessary tests and chemical quality assessment, successful wells are handed over to the State user agencies. During 2024, CGWB has constructed 400 wells including EW, OW and Piezometers.

#### **Aquifer Rejuvenation and Water Conservation:**

- **Groundwater Augmentation through Artificial Recharge in water stressed areas of Rajasthan:** CGWB has taken up the project on 'Groundwater augmentation through artificial recharge in identified water stressed areas of Rajasthan, comprising Jodhpur, Jaisalmer & Sikar districts of Rajasthan. The structures include check dams, anicuts and recharge shaft with ponds. The project is executing in three phases (Phase-1: 2 large dams, Phase 2: 101 WHS & Phase 3: 53 WHS). The Zoned Earth Fill Dam with Clay Core at Indorka, Jodhpur, Rajasthan was inaugurated by

Hon'ble Minister of Jal Shakti on 16.03.2024. The construction of Concrete Gravity Dam at Bastawa Mata, Jodhpur, Rajasthan was completed on 30.06.2024. The ancillary works are under progress.

Under Phase II 82 nos. of WHS (Masonry Check Dams (MCD), Anicuts, Concrete Check Dams (CCD & Recharge shafts) has been constructed in Balesar, Shekhla, Lohawat, Tinwari and Phalodi blocks of Jodhpur district and Sankra block of Jaisalmer and Shrimadhopur block of Sikar districts of Rajasthan has been completed.

Under Phase III 36 no. of WHS (Anicuts, Check Dams, Model Talab) have been constructed in Jodhpur, Jaisalmer, Sikar, Jhunjhunu and Alwar districts of Rajasthan.

- **Master Plan for Artificial Recharge to Groundwater:**

Central Ground Water Board has prepared a Master Plan for Artificial Recharge to ground water. It has been proposed to implement the Master Plan on Artificial Recharge in one district identified of each State/UTs through various Central/State schemes which are being implemented in the State. The implementation of master plan for Artificial Recharge- 2020 is being taken up in 36 districts (one district in each State/UTs) falling in 36 States/UTs. One district in each state has been identified for the implementation of Master Plan for Artificial Recharge-2020 on pilot basis and the implementation is in progress in 33 States/UTs of India.

- **Convergence with MGNREGS in Water Stressed areas:** CGWB is providing technical guidance in site selection & design of artificial recharge structures and capacity building of MGNREGS officials in selected 09 Blocks of 08 States as a pilot study. The work has been taken up under the MGNREGS fund, so far the work is completed in Andhra Pradesh, Telangana & Tamil Nadu (one block each) and is under progress in the rest of the blocks of the states.

- **Assessment of Ground Water Resource:** Periodic assessment of dynamic ground water resources is done jointly by CGWB and the respective State Governments. The web-based application "INDIA-GROUNDWATER RESOURCE ESTIMATION SYSTEM (IN-GRES)" developed by CGWB in association with IIT-Hyderabad for automated estimation of the dynamic ground water resources provides a common and standardized platform for the entire country. Ground water resource assessment for the base year 2024 has been done using IN-GRES software. As per the assessment, the total annual groundwater recharge in the country has been assessed as 446.90 Billion Cubic Meter (BCM). Keeping an allocation for natural discharge, the annual extractable ground water resource has been assessed as 406.19 BCM. The annual groundwater extraction for all uses is 245.64 BCM. The average stage of groundwater extraction for the country stands at 60.47 %.

- **Outreach Activities:** Public Interaction programs (PIPs) were organised by CGWB under Azadi Ka Amrit Mahotsav. The participants are sensitized on various aspects of water conservation, ground water management and findings of the NAQUIM study. During 2024, a total of 21 such programmes were conducted in which nearly 675 people have participated.

#### **CENTRAL GROUND WATER AUTHORITY**

Central Ground Water Board is also discharging the functions as Central Ground Water Authority (CGWA) to regulate and control the development and management of ground water in the country since 1997. Central Ground Water Authority (CGWA) has been entrusted with the responsibility of regulating and controlling ground water development and management in the country. The functions/ responsibilities of CGWA include:

- Exercise of powers under section 5 of the Environment (Protection) Act, 1986 for issuing directions and taking such measures in respect of all the matters referred to in sub-section (2) of section 3 of the said Act.
- To resort to penal provisions contained in sections 15 to 21 of the said Act.
- To regulate and control, management and development of ground water in the country and to issue necessary regulatory directions for the purpose.
- Exercise of powers under section 4 of the Environment (Protection) Act, 1986 for the appointment of officers.

Important activities of CGWA during 2024 are given below:

- **Amendment to guidelines:** With the approval of CGWA Board, total 65 amendments to existing guidelines have been proposed to the Ministry in order to remove conflicts/ discrepancies in guidelines, as also to introduce provisions for certain scenarios experienced during the processing of applications.
- **Processing of Applications for Grant/ Renewal of No Objection Certificate (NOC) for Ground Water Withdrawal:** CGWA continued to evaluate applications received from Industries/ Infrastructure Units / Mining Projects for grant of NOC for groundwater withdrawal as per provisions of the notified guidelines. During the year 2024, total 10863 applications were received for Fresh NOC/ Renewal of NOC. Out of which 8378 NOCs/ Renewal of NOCs/ Exemptions were issued. A total of 814 applications were rejected. In addition, 1046 NOCs/ Renewal of NOCs were issued in respect of earlier submitted applications. As per requirement for processing of NOCs, total 148 Meetings of Expert Appraisal Committees (Internal/ External) were held during this period.
- **Workshop/ Webinar/ Awareness Programmes:** Officers of CGWA actively participated in Workshop on Ground Water clearance for Mine proposals organized by Ministry of Mines.
- **Ease of Doing Business:** In order to

bring more and more projects into the ambit of groundwater regulation by obtaining NOC from CGWA, an OM has been issued on 12.03.2024 providing relaxation in Environmental Compensation (EC) for one-year period. The target beneficiaries are MSME extracting groundwater up to 100 KLD. The OM also provides relaxation in EC on saline ground water extraction by keeping earlier Public Notice in suspension for one year. In addition, charges for User ID change and other minor corrections have also been reduced for one year vide above OM. Awareness about the OM was spread by organizing webinars in the offices of industrial associations – with CII on 06.09.24, with ASSOCHAM on 20.09.24 and with FICCI on 30.09.24.

- On-Site Inspection by CGWB: During the year 2024, total 124 on-site inspections were carried out by the officers of Regional Offices of CGWB to check the compliance of NOCs granted by CGWA before issuance of renewal. During this period, the Project Proponents submitted total 3022 online self-compliances. In 686 cases, show-cause notices were issued to the project proponents extraction groundwater without valid NOC.
- A team headed by Member Secretary (CGWA), comprising members of External Expert Committee (EAC) and CGWA Officers conducted study tours and site inspections of mining and industrial projects in Chhattisgarh and Rajasthan. Meeting of External

EAC was held onsite for evaluation of Impact Assessment Report for heavy extraction of groundwater by India's largest onshore oil field of Cairn Energy in Barmer district, Rajasthan.

- Policy Documents/ SOPs: CGWA issued following Policy Document/ SOPs during the year 2024
  - i. Accreditation Policy for Ground Water Professionals in October, 2024
  - ii. SOP for Ground Water Modelling
  - iii. SOP for Water Audit Report
  - iv. SOP for handing over/ taking over of Authority on constitution of State Ground Water Authority. The SOP has been circulated to 19 States/ UTs presently regulated by CGWA.
- Submission of Reply/ Reports in respect of Court Cases: CGWA submitted timely replies/ reports/ affidavits etc. in compliance to directions in various court matters (Hon'ble Supre Court/ Hon'ble High Court/ Hon'ble NGT). Total 55 replies/ reports/ affidavits have been submitted to various courts during 2024. A few very important on-going matters, such as 'groundwater usage by cricket stadiums'; 'UN Report regarding depleting groundwater'; 'arsenic and fluoride in groundwater' etc. were dealt with during the year.

**RAJIV GANDHI NATIONAL GROUND WATER TRAINING AND RESEARCH INSTITUTE (RGNGWTRI):**



Rajiv Gandhi National Ground Water Training & Research Institute (RGNGWTRI) is the training wing of Central Ground Water Board, Ministry of Jal Shakti, Govt. of India and functions as a 'Centre of Excellence' with the national role of capacity building of CGWB, groundwater professionals from Central and State Government Organizations, Public Sector Undertakings, Non-Governmental Organizations, Academic institutions, and other stakeholders through three-tier training -Tier I (National Level), Tier II (State Level) and Tier III (Block level) trainings and is located in Sector 23, Naya Raipur, Chhattisgarh.

The institute was established at Raipur in the year 1997, for training and capacity building of groundwater professionals, and sub-professionals in core and applied fields of groundwater sciences. Due to varied hydrogeological settings in the country and excessive demands of groundwater, it has become imperative to train professionals on capacity building for the sustainable development of groundwater. The institute endeavours: (i) to be a centre of excellence in Training, Research and Development in the groundwater sector; (ii) to provide training to groundwater professionals and sub-professionals in various fields of groundwater; (iii) to train NGOs, Panchayati Raj Institutions and other stakeholders in groundwater; (iv) to train various stakeholders for taking up groundwater monitoring and data collection work for various national groundwater schemes under the Participatory Ground Water Management Program (v) to undertake Research and Development works in Ground Water Sector.

#### Activities of the RGNGWTRI:

- **Human Resource Development:** To improve the capacity building of groundwater professionals for sustainable groundwater development and management with a participatory approach, the institute has embarked upon a three-tier training system (Tier I, II, III) which can create a pool of trained resource persons who would work towards sustainability of groundwater resources across the country with community participation.

Apart from imparting training at the National Level, RGNGWTRI has also extended its scope to impart training to Foreign Nationals. The institute has conducted Six trainings for foreign nationals: i) Training for professionals from the Republic of Yemen in 2006, ii) Training on groundwater modelling and management for 18 professionals from 8 African countries in 2011, iii) Training for professionals from Nepal in 2016, and iv) Training for member countries of African-Asian Rural Development Organization (AARDO) in 2022, which was organized during 14th – 17th Nov 2022(Online Mode - Around 120 groundwater professionals from 27 member countries have participated), (v & vi) 2 Trainings for AARDO 2024, which were organized during 22nd - 25th July 2024 (Online Mode : About 168 ground water professionals from 27 member countries participated) and during 23rd September - 4th October 2024(Physical Mode : 5 ground water professionals from 4 member countries participated).



The Tier II training at the State level is conducted to build up the required manpower, mainly at the users and stakeholders level, to make them aware of the groundwater resources, and ensure a better understanding of the aquifers on which they depend. The Tier II trainings were organized through CGWB Regional Offices and envisaged the involvement and participation of Central and State

Government Organisations, NGOs, PRIs, Industries, and end-users to infuse a sense of ownership amongst the stakeholders.

The Tier-III trainings on “Local Ground Water - Related Issues and Participatory Ground Water Management” were organized to build capacity at the village/ block level in local vernaculars and thereby prepare the rural youths and the general public to function as Jalrakshaks.

#### Details of Tier-I, II, And III Training Conducted (January 2024 to December 2024)

Sl. No.	Training	Period January 2024 - December 2024		
		Training Conducted	No. of Participants	No. of Women Participants
1	Tier-I	60	1244	304
2	Tier-II	14	423	157
3	Tier-III	48	5636	2141
<b>Total</b>		<b>122</b>	<b>7303</b>	<b>2602</b>

NB: 3 One year ILTC, 1 Mandatory Training & 1 Water Audit(Paid) Training ongoing

- Research & Development Activities:** Apart from training RGNGWTRI is also conducting research in various aspects of groundwater. During the period of January – December 2024, 2 R & D Studies are in progress – 1) “Long Term Special Study on Aquifer Responses to Seismicity” in North Eastern Region, India in collaboration with GSI, NER, NCS, MoES and BARC, Mumbai – Signing of Multi Lateral MoU in Process and 2) “Groundwater Level Forecasting for Sustainable Usage of water resources using long term water level data of Mining –using Application of AI and IOT” in collaboration with Education and Research Network (ERNET) an

autonomous scientific society of the Ministry of Electronics and Information Technology, Government of India and CGWA – Depth to Water level Data acquisition in progress.

- Bhujal News:** RGNGWTRI, Naya Raipur has published Bhujal News, Volume 33, No 1-4(NAQUIM Special Volume) in the year 2024.
- Accreditation of Groundwater Professionals:** As per new Notified Guidelines of Central Ground Water Authority, all projects extracting/ proposing to extract groundwater in excess of 100 m<sup>3</sup>/day in Over-exploited, Critical, and Semi-critical areas and mining projects shall have to submit mandatorily the impact assessment report of

existing/ proposed groundwater withdrawal on the groundwater regime and also the report on the socio-economic impacts prepared by accredited consultants. Accreditation is a process of instilling assurance and confidence amongst all stakeholders to submit reports to acceptable standards. Accreditation is a tool to assess and evaluate the standards and quality of the work done or to be done by an individual or an organization. The Applicants who seeks permission for Water Extraction are confident in hiring the services of accredited individuals or institutions for conducting a hydrogeological survey and prepare a report on the groundwater scenario and the impact of the proposed extraction on the groundwater reservoir, which is mandatory for issuance of No Objection Certificate (NOC) from Central Ground Water Authority. RGNGWTRI is entrusted with the screening and scrutiny of applications received from individuals and Institutes for accreditation, conducting examinations, and issuance of certificates. During the year 2024, RGNGWTRI has conducted the 5th round of Accreditation, where 7 individuals have been accredited and none of the institutions qualified. Till date a total of 103 accreditations has been awarded of which 73 are in the individual category and 30 are in the institution category. During the current year, accreditation policy

has been modified and it has been decided to collaborate with NABET for the future accreditation examinations.

- **Water Audit Training:** As per the gazette notification dated 24th September 2020, the Department of Water Resources, River Development & Ganga Rejuvenation, Ministry of Jal Shakti notified the guidelines to regulate and control groundwater extraction in India and as per the approval from the Ministry of Jal Shakti, Govt. of India, vide letter No. T-81011/53/2022-GW, Section-MOWR, dated 27.09.2022, Rajiv Gandhi National Ground Water Training and Research Institute (RGNGWTRI), Naya Raipur, Chhattisgarh in collaboration with National Water Academy (NWA), Pune, Maharashtra was entrusted to conduct training on Water Auditing. RGNGWTRI has conducted 2 training in water audit, where 33 auditors have been certified, till date. The 3rd Water Audit Training is ongoing from 2nd December 2024 for a duration of 6 weeks, which is being attended by 24 trainees.
- **iGOT MODULES:** RGNGWTRI has prepared and uploaded six (6 nos) of e-learning modules on Atal Bhujal Yojna on the iGOT Platform. Three more iGOT modules – Ground Water Resource Estimation, Springshed Management and ArcGIS are being prepared.
- **Collaborative Trainings with**

**NWA and NERIWALM Under Synergy of CSTIs:** During the year 2024, RGNGWTRI has completed 3 trainings in collaboration with NWA & NERIWALM. As a part of synergy initiative, ILTC (One Year Duration) Batch 1 Trainees have visited NWA and NERIWALM and similarly Trainees from NERIWALM have visited RGNGWTRI. Trainees of ILTC (One Year Duration) Batch 2 & 3 are scheduled to visit NERIWALM and NWA during January 2025. Also a group of Officers from 34th ITP of NWA will be visiting RGNGWTRI during January 2025.

- **Accreditation of Institute:** RGNGWTRI has been accredited as अति उत्तम under the Capacity Building Commission's National Standards as assessed by the National Accreditation Board of Education and Training (NABET) on 22.11.23. The accreditation was awarded after the completion of the desktop and onsite assessment of the activities based on the eight pillars of capacity building. The accreditation is valid for a period of 2 years. The documentations work on the 8 Pillars and their associated metrics are in progress for renewal of this accreditation.
- **One-year Induction Level Training Programme:** As per the policy decisions, RGNGWTRI started conducting One Year duration Induction Level Training Courses for the newly recruited Scientific Officers (Group A & B) of CGWB from 2023-24. All the newly recruited officers are joining

RGNGWTRI for undergoing the induction training and are then posted to different field formations after successful completion of the training. The first Batch of ILTC completed their training on 14.11.2024. Currently 3 batches of one year ILTC are ongoing.

### 7.2.2 CENTRAL WATER AND POWER RESEARCH STATION (CWPRS)

CWPRS has been working and providing specialized services through physical and mathematical model studies, field and laboratory investigations in river training and flood control, hydraulic structures, ports and harbours, coastal protection, foundation engineering, construction materials, pumps and turbines, ship hydrodynamics, hydraulic design of bridges, environmental studies, earth sciences, cooling water intakes for thermal and nuclear power plants.

#### AREAS OF EXPERTISE

The research activities at CWPRS can be grouped into seven major disciplines as listed below:

- **River Engineering:** Studies related to river training and bank protection works, hydraulic design of barrages and bridges, measuring water and sediment discharge etc., are carried out under this discipline.
- **River and Reservoir Systems Modelling:** Studies related to flood estimation and forecasting, reservoir sedimentation and water quality are carried out under this discipline using mathematical models and field surveys.

- **Reservoir and Appurtenant Structures:** Spillways and Energy Dissipators are studied on physical models. Water conductor systems including headrace and tailrace channels/tunnels and surge shafts are studied on both physical and mathematical models. Studies are carried out on physical models for desilting basins, sedimentation and flushing through reservoirs, sediment exclusion devices. Sedimentation in reservoirs is also assessed through remote sensing.
- **Coastal and Offshore Engineering:** Studies related to optimization of length and alignment of breakwaters, jetties, berths, approach channel, turning circle etc. for development of various ports and harbors are carried out under this discipline. Field data collection is being carried out for coastal parameters like water level, currents, wave-height etc.
- **Foundations and Structures:** Laboratory and field test studies are carried out under this discipline to determine the soil, rock and concrete properties. The studies undertaken by this discipline pertain to dams, power plants etc. Also, Geotechnical studies using numerical modeling are conducted to assess safety and seepage aspects of earthen dams, tailings dams, ash dykes, barrages, hill slopes, embankments and coastal structures such as breakwaters, navigation channels, shore slopes, etc.
- **Applied Earth Sciences:** Studies related to seismic surveillance of river-valley projects, controlled blasting studies for civil engineering projects, detection of seepage and engineering properties of structures using nuclear logging and geophysical methods for various dams, canals, nuclear and thermal power plants etc. are carried out under this discipline.
- **Instrumentation, Calibration and Testing Facilities:** Studies related to installation and monitoring of instruments in dams, hydroelectric power plants etc., calibration of instruments and their testing are under this discipline. Services of dam instrumentation are provided at project sites. Hydraulic instrumentation is also being used for data acquisition on physical hydraulic models at CWPRS.

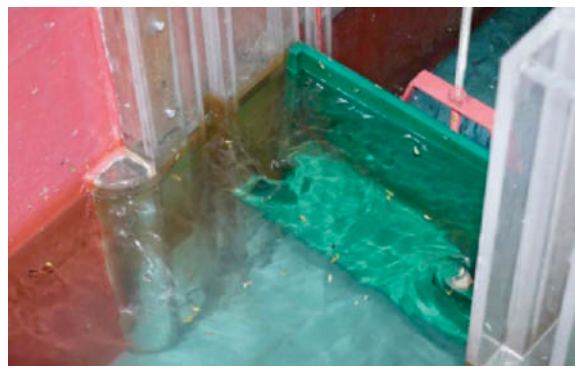
The significant achievements of CWPRS during the period from 1st April 2024 to 31st December 2024 are indicated below:

Success Indicators	Achievements (number)
Number of Technical Reports published	75
Number of Research Papers published	97
Number of Lectures delivered by CWPRS Scientists	59
Number of training programs organized by CWPRS	16

### IMPORTANT STUDIES CARRIED OUT AT CWPRS DURING THE PERIOD:

- Studies for estimation of design flood and water levels along the study reach of Tapi river for the proposed conventional barrage near village Rundh-Bhatha, Surat, Gujarat were carried out. These studies indicated that the estimated peak flood discharge and its corresponding water level could be used for assessing the flood inundation areas of river Tapi to ensure the rehabilitation and safety of people, and for execution of conventional barrage.
- Hydraulic model studies for Kosi River to examine the provision of additional spur at the recommendation of Kosi High Level Committee (KHLIC) on account of migration of river towards the western side (Nepal side) 8 km downstream of Kosi barrage, endangering the life and property on the country side. The hydraulic parameters and the flow pattern observed from the studies using existing mobile bed model at a distorted scale of 1:500 (H) and 1:70 (V) with additional spur indicated that three rows of RCC porcupine dampeners all along the channel water edges and bed bars or studs were recommended instead of additional spur.
- Hydraulic Model Studies for revision of gate operation schedule (2007) of Farakka Barrage, West Bengal to consider the flow conditions due to large shoal formations. An existing 1: 80 Geometrically Similar scale model at CWPRS enabled simulation of flow conditions under the existing and proposed gate operation schedules for various discharges along with 2-D mathematical model simulations besides qualitative analysis of deposition/ erosion patterns. Appropriate scientific recommendations were made to the project authorities in respect of gate operation schedule, management of shoal formation, bank erosion and river training works.
- 2D hydraulic model studies at 1:20 scale were carried out to optimize the design components of Head Regulator of Left Main Canal of the Polavaram Irrigation project, a Multipurpose National project on River Godavari in Andhra Pradesh. The canal is to divert 80 TMC of water during the flood season, for irrigation, industrial, drinking purpose to various districts in Andhra Pradesh. The study enabled optimization of various components of Head regulator- including overflow section, piers, breast walls, stilling basin with solid end sill, for the effective performance.

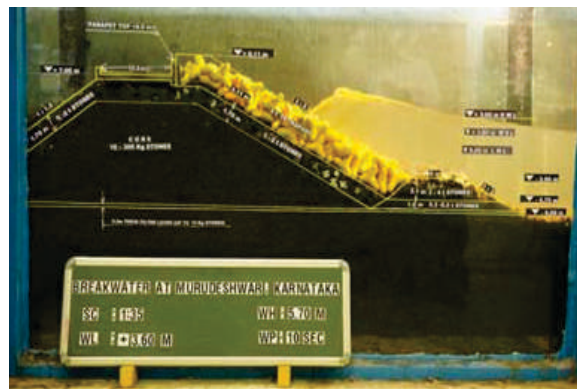




**2D Hydraulic model studies for Polavaram Irrigation Project for assessment of discharging capacity at left flank head regulator; views of Stilling Basin and Vortex formation in front of gates**

- Mathematical model studies for wave tranquility for development of fishing harbour and tourism at Murudeshwar, in Uttara Kannada District of Karnataka on the West coast of India. The desk and wave flume studies were carried out to evolve design cross-sections of breakwater at different sea bed level considering the significant

wave height of 4.5 m ( $H_s$ ) and design water level of +3.60 m. The hydraulic stability of breakwater section was confirmed through wave flume studies with appropriate Tetrapod armour units at different section and was found to be safe from hydraulic point of view.



**View of Physical Model at CWPRS showing placement of existing weir and proposed barrage**

- As an expansion initiative, the Deendayal Port Authority, Gujarat envisaged a container terminal measuring 1100 m, multipurpose cargo berth spanning 600 m and a common approach channel upto 12.2 km. Annual sedimentation along with capital dredging on account of expansion has been

addressed by conducting mathematical model studies for assessment of hydrodynamics and sedimentation and also for identification of sites suitable for disposal of dredged material without affecting neighbouring port areas and navigation activities.

- Hydraulic model studies were carried out to assess the feasibility of floating pontoon & Jetty at Rajbunder, Elephanta Island, Mumbai using Physical and Mathematical models.
- The Paradip Port Authority, Odisha as a part of Master Plan 2047 aimed at assessment of hydrodynamics,

siltation, wave tranquillity and effect of wave disturbance on the proposed docks / berths during ship navigation in the channel. Field data has been acquired and a calibrated model developed to simulate Paradip Port for carrying out mathematical model studies.

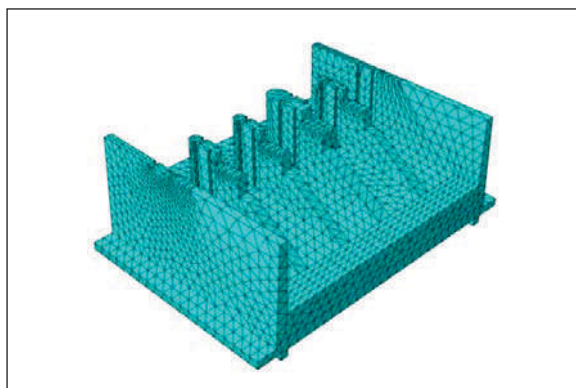
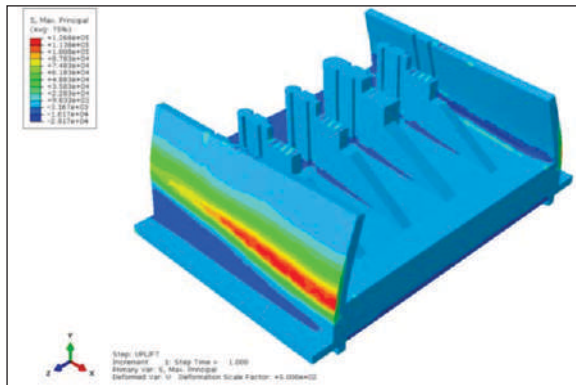


Field data collection for Water Currents (locations C1 and C2) and Water Level was carried out using Acoustic Doppler Current Profiler and Tide Gauge, respectively

- Karnataka Maritime Board (KMB), Karwar, Govt. of Karnataka intended to develop a Multi-Purpose Marine Facility at Byndur, under Sagarmala scheme (DPR-7). Desk and wave flume studies have been carried out to evolve design cross sections of breakwater. The breakwater protection configuration of tetrapod armour units has been optimized. The hydraulic stability of breakwater section was confirmed through wave flume studies and section was found to be safe from hydraulic point of view.
- 3D Stress Analyses by FEM were conducted for Bindu Barrage of

Jaldhaka Hydro-electric Project, Kalimpong District (West Bengal) that is built on a run of river from the confluence waters of Jaldhaka River (Dichu), Nichu and Bindu Khola on the Indo-Bhutan border. Simulation and Modelling Analyses were carried out to assess the structural integrity of the barrage structure as per IS:6512 (1984) and IS:11130 (1984) standards for loading combinations considering in-situ material properties and ABAQUS general purpose Finite Element software version R2019X. The study ascertained structural integrity of Bindu Barrage upon finding that principal stresses and

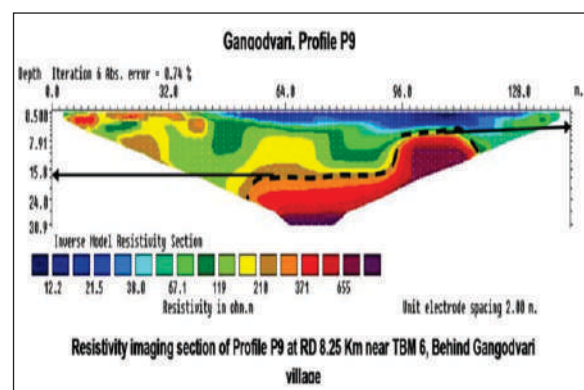
deflections are within permissible limits and suggested remedial measures for abutments.



**3D Finite Element Model of Bindu Barrage and Maximum Principal Stress distribution in the Steel in whole barrage under specific loading combination**

- Geophysical Investigations were carried out for the Damanganga (Ekdare)-Godavari (DEG) pipeline link project of the Government of Maharashtra, aimed to transfer 138.6 MCM of surplus water from the catchment of Damanganga river basin to Ekdare dam site, followed by Godavari basin at the existing Waghad reservoir in order to address the irrigation, domestic, and industrial needs of the drought-prone Marathwada region in the Upper Godavari sub-basin. The depth to bedrock i.e., compact basalt and the bedrock topography

of the project site have been ascertained for the pipeline link project from multiple geophysical investigations. Studies for estimation of average shear wave velocity (VS30) at different locations i.e., Nilmati Dam, Udhale Dam, MET Dam and Koshimset Dam on the Damanganga-Vaitarna-Godavari (DVG) Link Project have also been carried out.



- Hydraulic Instrumentation Services i.e., Selection, Supervision, Calibration, Testing & assistance in installation of automatic flow monitoring devices were offered to Sardar Sarovar Project, a multipurpose and interstate project, planning for a real time Supervisory Control and Data Acquisition (SCADA) based canal control system over the Narmada canal - a large water conductor system with over 40,000 cusecs. Based on a comparative analysis, Non contact/ Camera based / Transit type of flow sensors/ instruments were recommended for installation with GSM supported communication system at all monitoring locations and with



LoRA/Radio network for critical points to ensure data sharing for one or multiple locations with security protocol. As a part of dam health monitoring and safety assessment, studies were carried out for revival of dam instrumentation of Sukhi dam, Gujarat.



SCADA based canal control system using flow sensors with GSM supported communication over Narmada canal of the Sardar Sarovar Project

- Hydraulic model studies were carried out for assessment of scour on the downstream of dam spillway of Kwar Hydroelectric Project (540 MW), a run-of-river scheme on the Chenab River near Padyarna village in Kishtwar, Jammu and Kashmir. A 1:70 scale 3D model was used to simulate the river downstream of the spillway up to chainage 400 m.

Studies indicated that for a discharge of  $10,534 \text{ m}^3/\text{s}$  deepest scour was observed for chainage length 270 – 300 m at elevation of 1238 m and 1229 m under gated and ungated conditions. The studies recommended for design of plunge pool bed based on observed scour depths and rock conditions and provide suitable rock support measures downstream of the ski-jump bucket to protect the dam toe from undermining.

### 7.2.3 GANGA FLOOD CONTROL COMMISSION (GFCC)

Ganga Flood Control Commission (GFCC) was established in 1972 with its headquarter at Patna. The Commission is headed by a chairman with two full time members. The representatives of concerned central ministries and departments as well as the Engineer-in-Chief/ Chief Engineers of the Ganga basin States are part time members/permanent invitees.

The Commission has been assigned the following tasks:

- Preparation and updation of comprehensive plans for flood management of the river systems in the Ganga basin.
- Phasing/sequencing of programme of implementation of works included in the basin-wise plans.
- Providing technical guidance to the Ganga basin States, namely, West Bengal, Bihar, Jharkhand, Uttar Pradesh, Uttarakhand, Chhattisgarh, Madhya Pradesh, Delhi, Haryana, Himachal Pradesh

and Rajasthan on flood management.

- According techno- economic appraisal and clearance to flood management schemes of the Ganga basin States with an estimated cost of more than Rs. 12.5 crore and up to Rs. 25 crore, except for schemes of the States of Haryana, Uttar Pradesh and Delhi on the river Yamuna in the reach from Tajewala to Okhla Barrage. The schemes with estimated cost of more than Rs. 25 crore are appraised by GFCC and their techno-economic clearance is accorded by TAC-MoWR.
- Monitoring the execution of the important flood management schemes, particularly those receiving central assistance under Flood Management and Border Area Programme or being executed under Central Sector.
- Assessment of adequacy of the existing water ways under the road and rail bridges and additional waterways required to be provided for reducing the drainage congestion to reasonable limits.
- Performance evaluation of major flood management measures executed by the States including the inter-State flood management schemes.

#### **Achievements during 2024-25:**

- **Maintenance of Flood Protection Works of Kosi and Gandak Projects:**

The flood protection works on river Kosi and Gandak are being carried

out based on site inspection after every flood season and on recommendations of Kosi High Level Committee (KHLC) and Gandak High Level Standing Committee (GHLSC) respectively. The reimbursement of expenditure incurred on maintenance of the flood protection works executed in Nepal portion is being made by Government of India after utilization certificate of the same is received from the State Government of Bihar for Kosi and Government of Uttar Pradesh for Gandak, respectively. KHLC / GHLSC conducted annual inspection of the flood protection works on rivers Kosi and Gandak during 11.11.2024 to 14.11.2024, and 25.11.2024 to 29.11.2024, respectively, held meetings and finalized the recommendations for flood protection works on these rivers to be taken up and completed in time bound manner before the flood season 2025.

- **Updating of comprehensive Plan for Flood Management:**

Comprehensive plans for flood management for all the 23 river systems of the Ganga basin were prepared between 1975 and 1990. The work of updating these comprehensive plans was taken up due to changes, additional information/ data on hydro-meteorology and morphology in the basin in the subsequent years. it was stressed on Development of integrated comprehensive plan for



flood management of a river sub-basin as a whole, considering the international - trans boundary aspects. The concerned States were requested to supply the data available under their domain. GFCC is now planning to update the prime work i.e updation of comprehensive plans with the state of art technology on GIS based.

During 18th GFCB meeting held on 19th December 2024, GFCC has proposed the constitution of Standing Committee for each Ganga Basin State to expedite in collection / coordination of data / information required for various purposes like updating of Comprehensive plans as well as inventory of flood management schemes etc.

- **Assessment of the adequacy of existing waterways under road and rail bridges:**

Main stem Ganga was divided into 5 reaches a) Outfall to Sahebganj, b) Sahebganj to Buxar, c) Buxar to Haridwar, d) Haridwar to Rudrapryag, e) Rudrapryag to Badrinath & Rudrapryag to Kedarnath. Out of 5 selected reaches, the assessment study is in progress for 3 reaches. Survey and data collection work for Haridwar to Rudraprayag has been completed. Assessment study report for Haridwar to Rudraprayag is in progress and survey for Rudraprayag to Badrinath & Rudraprayag to Kedarnath is in process.

- **Techno-economic Appraisal of Flood Management Schemes:**

All together Nineteen flood management schemes were received in GFCC from Ganga Basin States during the period April 2024 to December 2025 including spillover projects from previous years. Out of this Eight schemes were approved by the Technical Advisory Committee of DoWR, RD&GR. Eight schemes are pending with State Governments for compliance and Three schemes are under examination in GFCC.

#### **7.2.4 BANSAGAR CONTROL BOARD (BCB)**

Bansagar Control Board was set up vide Government of India, Ministry of Agriculture and Irrigation Resolution No.8/17/74-DW-II dated 30th January, 1976. It was amended vide Resolution No.8/17/74-DW-II dated 28th March, 1978. This Resolution was in accordance with an agreement reached between the Governments of Madhya Pradesh, Uttar Pradesh and Bihar on 16th September, 1973 for sharing the waters of river Sone and the cost of the Bansagar dam. The Union Minister of Jal Shakti is the Chairman of the Board and Union Minister of Power, Chief Ministers, Minister-in-charge of Irrigation and Finance of the three States and Minister-in-charge of Electricity of Madhya Pradesh are members. The expenditure on the office of the Board is met out of budget grant from DoWR, RD&GR and subsequently reimbursed by the three States of Madhya Pradesh, Uttar Pradesh and Bihar. An Executive Committee of the Board headed by

Chairman, CWC manages the activities of the Board. Bansagar dam was raised to its full height along with erection of 18 radial crest gates in June 2006. In 2023-24 the reservoir got filled up to reservoir level 341.48 m (FRL=341.649m) on 26.09.2023.

**Bansagar Dam Project:** Bansagar is a multipurpose river valley project on river Sone in Madhya Pradesh envisaging both irrigation and hydroelectric power generation. The Bansagar project is being executed by the Water Resource Department, Government of Madhya Pradesh under direction of Bansagar Control Board. The Party States carry out the execution of the canals and power system independently under their jurisdiction. As per the information provided by the Water Resources Department, Government of Madhya Pradesh, the water released to the States of Madhya Pradesh, Uttar Pradesh and Bihar from 1st January, 2023 to 31st March, 2024 is 4,673.661 MCM, 562.75 MCM and 1172.611 MCM, respectively.

### **7.2.5 UPPER YAMUNA RIVER BOARD (UYRB)**

Upper Yamuna River Board (UYRB) was constituted by Resolution No. 10(66)/71-IT dated 11th March, 1995 of MoWR, RD & GR, Govt. of India in accordance with the provision of the MoU signed by the Chief Ministers of Himachal Pradesh, Haryana, Uttar Pradesh, Rajasthan, and National Capital Territory of Delhi on 12th May, 1994 regarding allocation of utilizable surface flow of river Yamuna upto Okhla Barrage (Upper Yamuna) among the co-basin States. After the creation of Uttaranchal State in 2000,

the resolution was modified to include Uttaranchal (now Uttarakhand) also in the Board in 2001.

The Board consists of Member, Central Water Commission as part-time Chairman and one nominee each from the States of Uttar Pradesh, Uttarakhand, Haryana, Rajasthan, Himachal Pradesh, and National Capital Territory of Delhi not below the rank of the Chief Engineer; a Chief Engineer from Central Electricity Authority and representatives of Central Ground Water Board and Central Pollution Control Board as part-time Members. The Board has a full-time Member-Secretary who does not belong to beneficiary States. The expenditure on the Board is shared equally by the six basin States.

The main function of the UYRB include regulating the allocation of available flows amongst the beneficiary States; monitoring the return flows; monitoring conserving and upgrading the quality of surface and groundwater; maintaining hydro - meteorological database for the basin; overseeing plans for watershed management; monitoring and reviewing the progress of all projects upto and including Okhla barrage.

**Upper Yamuna Review Committee:** It is constituted under the chairmanship of the Hon'ble Minister, Ministry of Jal Shakti, Government of India and comprising of Chief Ministers (Governor in case of President's Rule) of the States of Himachal Pradesh, Haryana, Rajasthan, Uttar Pradesh, Uttarakhand, and National Capital Territory of Delhi for assessment of working of the UYRB and ensuring implementation of MoU dated 12.05.1994.

**Activities of UYRB:** Four emergent meetings (62nd, 63rd, 64th and 65th) of UYRB were held on 5.6.2024, 14.6.2024, 19.6.2024 and 26.6.2024 respectively to discuss aspects related to mitigation of the ongoing water crisis in the NCT of Delhi due to unprecedented heat wave condition. The Board kept a close watch on the flow situation to decide immediate action, as necessary. The discussion on way forward and actions for avoiding similar issue in future were also initiated during the above meetings.

The 66th meeting of Upper Yamuna River Board (UYRB) was organised on 12th November, 2024 at New Delhi. The matters discussed during the meeting include (a) Utilization of Himachal's share of unutilized Yamuna water by Delhi; (b) Short Supply of Yamuna Water to Rajasthan; (c) Construction of river training work in the downstream of Hathnikund Barrage; (d) Transfer of Rajasthan's share of Yamuna water; (e) Release of outstanding raw water charges by Delhi to Haryana on account of extra raw water supplied; (f) Status of implementation of storage projects in Upper Yamuna Basin; (g) Disruption of water supply in Delhi due to rise in ammonia levels in river Yamuna due to pollution entering river Yamuna from Panipat and Sonipat; (h) Substitution of 51 cusec of Yamuna Water to Delhi at Hathnikund from Irrigation purposes to Drinking Water purposes; (i) Independent inspection /assessment to suggest the improvement in the lining of Delhi Sub Branch (DSB) / Desilting and repair of the entire stretch of CLC; (j) Interlinking arrangement of DSB and CLC at Iradat Nagar, Delhi; (k) NOC for Dr. Shyama Prasad

Mukherjee reservoir (Drinking Water) project on river Swarna, Dehradun; and (l) Collection and validation of data for water accounting in Upper Yamuna basin.

Three storage projects, viz., Lakhwar (on the river Yamuna with 330 MCM live storage & 300 MW power generation in the State of Uttarakhand), Kishau (on the river Tons, a tributary of river Yamuna, with 1,324 MCM live storage & 660 MW power generation in the States of Uttarakhand & HP) and Renukaji (on the river Giri, a tributary of river Yamuna, with 498 MCM live storage & 40 MW power generation in the State of HP) have been identified to be constructed in upper Yamuna basin. The agreements for implementation of Lakhwar & Renukaji were signed among the basin States on 28.08.2018 and 11.01.2019 respectively. Efforts have been made by UYRB for resolving various concerns raised by Uttarakhand & Himachal Pradesh for signing the agreement for Kishau MPP. Various meetings have been held in this regard to deliberate on alternatives for funding of power component of the project.

#### **7.2.6 FARAKKA BARRAGE PROJECT (FBP)**

The Farakka Barrage Project (FBP) was commissioned in 1975 for preservation and maintenance of the Shyama Prasad Mukherjee Port (erstwhile Kolkata Port) and for increasing the navigational depth of the Bhagirathi-Hooghly waterway. FBP also facilitates the sharing of Ganga waters between Bangladesh and India as per the Indo-Bangladesh Water Treaty-1996. It comprises 2,245 m long barrage across

river Ganga at Farakka in Murshidabad District of West Bengal, a canal Head Regulator at Farakka for diverting water to Feeder Canal and Jangipur Barrage, besides the road-cum-rail bridge across Ganga at Farakka, navigation locks at Farakka and Jangipur, a road-cum-rail bridge across the Feeder Canal, townships at Farakka, Ahiron and Khejuriaghat having about 4,000 dwelling units, a higher secondary school with the student capacity of around 1000 and a hospital. Its appurtenant structures include flood embankments, marginal bunds, afflux/guide bunds, etc.

FBP authority has been assigned following major responsibilities:

- Operation & maintenance of main barrage
  - » 112 gates on main barrage [108 main gates (1 to 24 nos gates are under sluice gates, 26 to 109 nos gates are Crest gates and 25, 25 A nos gates are 2 tier fish lock gates]
  - » 11 gates on Head Regulator (3 tier gates)
  - » 15 gates of Jangipur barrage
  - » Protective measures of apron and river bed in upstream and downstream of both the barrages & Head Regulator.
- Maintenance and protective measures of Feeder Canal (38.38 km in length), structures across Feeder Canal, culverts, inlets, ferry services, inspection road (both banks), syphon, buildings etc.
- Maintenance and protective anti-

erosion work in the original jurisdiction (12.5 km upstream and 6.9 km downstream of barrage); along with its allied structures like marginal bund, afflux bund, inspection road, regulator, culverts, guide bund etc. for the safety of barrage.

- Maintenance of Farakka Barrage Township, Khejuriaghat Township, Jangipur barrage colony, colony at Kalindri regulator, including maintenance of all civil, mechanical and electrical structures.
- Operation & maintenance of all equipment, vehicles and machineries, etc.

#### **Major achievements:**

- Replacement of 11 nos. of Head Regulator gates is in progress.
- The work of painting of hoist trestle of the main barrage has been awarded and under progress.
- Supply of Services of manpower for operation and regulation of all gates of Main Barrage and Head Regulator gates of Farakka Barrage round the clock.
- Annual Maintenance of 108 nos. Main Barrage gates and its Hoist machineries & embedded parts is operational.
- The removal of the stuck stop log gate from Bay No. 87, after being immobilized since last few years, which marks a significant achievement and enabling the control water flow through this bay and replacement of old Gate at bay no 87 is in progress.

- Repairing of 16 nos stop log gates has been completed.
- Balance work of fish lock gate is under progress.
- Construction of Boundary Wall around the Kalindri CISF Barrack is completed and boundary wall at the departmental stack yard near Bay 109 & various pockets of Ahiron colony is under progress.
- Anti-erosion works at upstream left bank of river Ganga near Shimultola, Atatola & Birnagar area in 11 no. reaches between Ch 0.00 m to Ch 40 m, Ch 640 m to Ch 720m, Ch 1040 m to Ch 1080 m and Ch. 1200.00 m and Ch. 3200.00 m (total working length 3145 m) has been completed.
- Special repair and renovation of CISF unit Office cum Barrack, CISF Mess, pump rooms, existing boundary walls and construction of new camp office, 3 nos. toilets block at Khejuriaghat is in progress.
- Bank protection measures in 6 no. reaches on the Left & Right bank of Feeder Canal under Farakka Barrage Project.
- Repair & maintenance of longitudinal drain, cleaning of culverts and cleaning of jungle on the left bank of Feeder Canal.
- Repairing of Left bank upstream guide bund inspection road from Afflux Bund to stack yard, repairing of Feeder Canal inspection road.
- Repairs of approach roads at different regulators is under progress.
- Repair/ renovation of different CISF outposts is under progress.
- Enhancement of security at FBP through private security guards and Supervisors through DGR has been implemented.
- Renovation of warehouse to convert into DGR Barracks is in progress.
- Special repair and renovation of Rest Shed cum Office of Farakka Barrage Project, Kolkata is completed.
- Special repair/renovation of office building (OB) no -1 for division office is completed and OB no -3 for division office & OB no -2 for CISF Barrack is under progress.
- Identification, Demarcation and Mutation of FBP Land as per acquisition plan/LR Mouza map of the whole area alignment/perimeter alignment in all stretches of FBP is in progress.
- First phase of supply, installation, testing & commissioning of CCTV Surveillance system for Farakka Main Barrage & Head Regulator of FBP is completed and second phase is in progress.
- The installation of LAN, along with the supply of hardware and internet, at Farakka Barrage Project has been completed and is now fully operational.
- The implementation of e-office at FBP is underway, streamlining administrative processes and enhancing efficiency, transparency, and digital governance.
- The Dam Tourism proposal at



Farakka Barrage Project has entered the pre-feasibility report phase, marking a significant step towards promoting sustainable tourism while enhancing the region's economic and environmental awareness.

- The Induction Training Programme (ITP) for newly recruited Junior Engineers of Farakka Barrage Project FBP was held in Pune from 07.10.2024 to 11.10.2024, providing them with essential skills and knowledge to effectively contribute to the project's operations and development.

### 7.2.7 NATIONAL WATER INFORMATICS CENTRE (NWIC)

National Water Informatics Centre (NWIC), set up in March 2018 as a Subordinate Office under the Department of Water Resources, River Development and Ganga Rejuvenation (DoWR, RD & GR), Ministry of Jal Shakti, Government of India, will act as the central repository and nodal agency for water data at National Level. The vision and mission statement of NWIC are as under: -

**Vision:** Data as key driver for water governance and integrated water resources management at all levels in the country.

**Mission:** To make water data findable, accessible, inter-operable and reusable in partnership with Water Data Producers, Water Data Users and Water Managers.

As the repository and nodal agency for nation-wide water data, the roles and responsibilities of NWIC consist of

following key pillars of action:

- Water Data Governance
- Water Data Publishing
- Water Data Visualization and Insights
- Water Data for Decision Support System.
- Water Data for Research and Innovations

Key activities undertaken by NWIC during the year 2024-25 are as under:

- **Water Information Management System (WIMS)**
  - » **Integration of New Telemetry Stations:** Over 4,469 surface water and groundwater telemetry stations were seamlessly integrated into WIMS, enabling real-time monitoring and automated data collection.
  - » **SCADA Stations Implementation:** Supervisory Control and Data Acquisition (SCADA) stations were established across Rajasthan, Uttarakhand, and Telangana for efficient remote site monitoring.
  - » **New Modules Developed:** (i) Surface Water Data Download Module: Users can download surface water data by selecting manual or telemetry mode, desired agency, and time range, (ii) Suspended Sediment Summary Module: Allows bulk download of sediment data customized by state, district, and time range and (iii) Export

Cross-Section Data Module:  
Enables instant download of cross-section data for multiple stations.

- » **APIs for Real-Time Data Integration:** (i) NWIC developed and shared Application Programming Interfaces (APIs) to integrate real-time data from SCADA and telemetry systems, and (ii) Customized APIs were provided for flood monitoring, reservoir status, and groundwater level data.
- **India - Water Resources Information System (India-WRIS):** Enhancements were made to the Geoviewer Module, introducing advanced visualization tools for viewing spatial layers such as Water Quality Stations, Rainfall Stations, Reservoir Points, and Groundwater Levels. This module includes features like legend display, surface profiling, measurements, attribute tables, and bookmarking options, improving user experience. The Reservoir Module was upgraded by integrating 31 new reservoir stations, bringing the total reservoir stations to 465. This module provides live storage data with clear visualizations, categorized by latitude, longitude, and color-coded status for easy understanding.

### 7.3 REGISTERED SOCIETIES/ STATUTORY BODIES / AUTONOMOUS BODIES

#### 7.3.1 NATIONAL WATER DEVELOPMENT AGENCY (NWDA)

The National Water Development Agency (NWDA) was set up in July 1982 by the Government of India as a Society under Societies Registration Act, 1860 under the then Ministry of Irrigation (now Ministry of Jal Shakti) to study the feasibility of the links of rivers under peninsular component of National Perspective Plan (NPP). NWDA is fully funded by Government of India. Hon'ble Union Minister of Jal Shakti is the President of the Society. The Governing Body (GB) of the NWDA Society under the chairmanship of the Secretary (DoWR, RD & GR), Government of India, manages, administers, directs and controls the affairs and funds of the Society subject to the rules, bye-laws and orders of the Society and generally pursues and carries out the activities of the Society.

The functions of NWDA have been modified from time to time and the present functions are furnished below:

- To carry out detailed survey and investigations of possible reservoir sites and inter-connecting links in order to establish feasibility of the proposal of peninsular rivers development and Himalayan rivers development forming part of NPP for water resources development prepared by the then Ministry of Irrigation (now Ministry of Jal Shakti) and Central Water Commission (CWC).

- To carry out detailed studies about the quantum of water in various peninsular river systems and Himalayan river systems which can be transferred to other basins/ States after meeting the reasonable needs of the basin/States in the foreseeable future.
- To prepare feasibility report of the various components of the scheme relating to peninsular rivers development and Himalayan rivers development.
- To carry out survey and investigation work and prepare detailed project reports of river link proposals under NPP for water resources development and thereafter approach concerned States for obtaining concurrence for implementation of the project.
- To prepare pre-feasibility/ feasibility/ detailed project reports of the intra- State links as may be proposed by the States. The concurrence of the concerned co-basin States for such proposals may be obtained before taking up their FRs/DPRs.
- To undertake /construct /repair / renovate /rehabilitate /implement the projects either of its own or through an appointed Agency /Organizations /PSU or Company and the projects forming part of Interlinking of Rivers, for completion of projects falling under Pradhan Mantri Krishi Sinchai Yojna (PMKSY) of which projects under Accelerated Irrigation Benefits Programme (AIBP) are also included and similar other projects.
- NWDA to act as a repository of borrowed funds or money received on deposit or loan given on interest or otherwise in such manner, as directed by MoWR, RD &GR (now MoJS) and to secure repayment of any such borrowed funds/ money/deposits/ loan etc. by way of mortgage, pledge, change or lien upon all or any other property, assets or revenue of the Society, both present and future.
- To do all such other things the Society may consider necessary, incidental, supplementary or conducive to the attainment of above objectives.
- To support Ken-Betwa Link Project Authority (KBLPA) as specified in Memorandum of Agreement (MOA) signed on 22nd March, 2021 for implementation of Ken-Betwa Link Project.

#### HIGHLIGHTS OF ACTIVITIES:

##### **Interlinking of Rivers under NPP: Priority link Project:**

##### **Ken-Betwa Link Project (KBLP):**

Ken-Betwa Link Project (KBLP) is the first Interlinking of Rivers (ILR) project of NPP that is under implementation. The project is planned to provide annual irrigation of 10.62 lakh ha in Madhya Pradesh and Uttar Pradesh (mostly in Bundelkhand region) and provide drinking water supply to a population of about 62 lakh

people in both the states. The Govt. of India has approved the implementation of KBLP with an estimated cost of Rs 44605 crore (year 2020-21 price level) with central support of Rs 39317 crore through a Special Purpose Vehicle viz; Ken Betwa Link Project Authority (KBLPA). Initial focus is on land acquisition, R & R and EMP of the project. The proposal of technical and financial evaluation of bids received for the main component of the project i.e. Daudhan dam and its Appurtenant works (EPC mode) was sent to Ministry of Jal Shakti and after obtaining approval from Ministry, KBLPA has issued Letter of

Acceptance for the work of Daudhan dam on 28.11.2024. Land acquisition work is under progress. The project is planned to be completed in period of 8 years.

On December 25, 2024, marking the 100th birth anniversary of former Prime Minister Shri Atal Bihari Vajpayee, Hon'ble Prime Minister Shri Narendra Modi laid the foundation stone of the Ken-Betwa River Linking National Project, India's first river interlinking project under the National Perspective Plan. This landmark initiative represents a significant milestone in the country's water resource management strategy.



Launch of Ken-Betwa Link Project by Hon'ble Prime Minister on 25th December 2024



Hon'ble Prime Minister Shri Modi credited Dr. B.R. Ambedkar's vision for India's major river valley projects. The major river valley projects of India were based on the vision of Dr. Babasaheb Ambedkar. The Central Water Commission exists today because of the efforts of Dr. Ambedkar.

Ken-Betwa Link Project will open new doors of prosperity and happiness in

Bundelkhand region. The past decade will be remembered as an unprecedented decade of water security and water conservation in the history of India.

Ken-Betwa River Linking National Project is going to change the picture of Bundelkhand. The project spans two states, bringing substantial benefits to multiple regions. In Madhya Pradesh, ten districts will receive irrigation and



drinking water facilities v.i.z. Chhatarpur, Tikamgarh, Niwari, Panna, Sagar, Damoh, Datia, Vidisha, Shivpuri and Raisen districts. Similarly, in Uttar Pradesh's Bundelkhand region, four districts will benefit: Banda, Mahoba, Lalitpur, and Jhansi, thus benefiting lakhs of farmer families.

The cornerstone of this ambitious project is the 96.70-meter-high Daudhan dam and the 220-kilometer Ken-Betwa Link Canal. This infrastructure will transform the region's agricultural landscape by providing water to more than 11 lakh hectares of land. The project will also ensure drinking water facilities for the people of the region. Additionally, the hydropower components will contribute more than 100 MW of green energy.

The project ensures reliable drinking water supply to the local population while generating clean hydroelectric power. Furthermore, it creates significant employment opportunities throughout the region and strengthens the rural economy through improved agricultural productivity and infrastructure development.

This comprehensive project exemplifies sustainable development by balancing agricultural needs, water security, clean energy generation, and economic growth, promising to enhance the quality of life for millions of residents in both states.

- **Modified Parbati-Kalisindh-Chambal (PKC) link project:**

With a view to optimize the utilization of water of the Chambal River System and based on deliberations with

Rajasthan and Madhya Pradesh, at various platforms, a proposal of Modified Parbati-Kalisindh-Chambal (Modified PKC) link, incorporating the components as proposed by Govt. of MP in Kuno, Parbati and Kalisindh sub-basins along with components of ERCP has been framed. Modified PKC link has been made a part of NPP of ILR and has been declared as a priority interlinking project by Special Committee for Interlinking of Rivers (SCILR) in its 20th meeting held in December, 2022. The draft PFR of Modified PKC link and a draft MoU for preparing the DPR of the Modified PKC link was circulated to both the States in January, 2023. The persistent efforts of Govt. of India has led to signing of MoU by both these states with Ministry of Jal Shakti (MoJS), Govt. of India (GoI) on 28.01.2024 in New Delhi in the presence of Hon'ble Chief Ministers of both the states, for preparation of its DPR and on broad planning of the link project. Preparation of DPRs of its components by both the States is under progress.

The MPKC link project may provide drinking water to targeted population of 21 newly constituted districts of Eastern Rajasthan and en-route towns, tanks and villages as well as meet industrial water demand for Delhi Mumbai Industrial Corridor (DMIC) and other industries. There is also provision of irrigating more than 2.5 lakh ha of new command area as well as stabilizing the existing command area of about 1.5 lakh ha in Rajasthan. The project may provide benefits to MP extending annual irrigation to command area of about 6 lakh ha and drinking water supply to its districts of Shivpuri, Gwalior, Bhind, Morena, Sheopur, Shajapur, Rajgarh,



Guna, Ratlam, Ujjain, Dhar and Dewas including Malwa region. A draft MoA for the implementation of the link project has also been shared with both the states.

- **Godavari (Inchampalli barrage) – Cauvery link:**

DPR of Godavari-Cauvery Link Project (comprised of 3 link projects viz; Godavari – Krishna (Nagarjunasagar) link, Krishna (Nagarjunasagar) – Pennar (Somasila) link and Pennar (Somasila) – Cauvery (Grand Anicut) link) envisaging diversion of 7000 MCM of water from the Godavari river was prepared and circulated to concerned States in April, 2021. Five consultation meetings for arriving consensus among party States have been held so far. As per decision taken during the meeting held on 18.2.2022, a proposal limiting the transfer from 7000 MCM to about 4000 MCM from Godavari along with combining the proposal for supplementation in Krishna basin through Bedti - Varda link as an interim arrangement was studied by NWDA.

The modified proposal comprises of two components:

- a) Godavari (Inchampalli) - Cauvery link project envisages diversion of 4189 MCM from Godavari to Cauvery with the introduction of micro irrigation system to improve the water use efficiency.
- b) The Bedti - Varda link project link project envisages diversion of 524 MCM from Bedti river to Tungabhadra reservoir and has two components a.) Bedti (Pattanadahalla / Shalamalahalla) - Varda link (302 MCM) and b)

BBEdit (Suremane) - Dharma - Varda link (222 MCM).

The proposed total diversion is (G-C Link + B-V Link)  $4189 + 524 = 4713$  MCM. A Technical Feasibility Report on proposal of diversion of 4189 MCM of Godavari water was prepared by NWDA and circulated in January 2023 among party States. In view of the various comments received from the party states, Detailed Project Report for the diversion of 4189 MCM through the link project was prepared and circulated by NWDA in January, 2024 for arriving consensus of party States. Separate meetings with party States are being held for consensus building. A Draft MoA has been prepared for implementation of link project and has been circulated to concerned States/ UT in April, 2024 for perusal and observations. Ministry of Jal Shakti is making necessary efforts through the consultation process to build consensus among the party States for the link project.

- **Intra State Links:**

Under the intra-State link projects, NWDA received 49 link proposals from 10 States out of which pre-feasibility reports of 39 link projects were completed and sent to concerned States. The remaining links are either withdrawn by States or are not under intra-State link category. Based on the request of concerned States, the DPRs of Six links viz; Kosi-Mechi, Burhi Gandak-Noon-Baya-Ganga links of Bihar, Wainganga-Nalganga link, Damanganga (Ekdare)-Godavari link and Damanganga-Vaitarna-Godavari link projects of Maharashtra and Ponnaiyar (Nedungal)-Palar intra- State link of Tamil Nadu, were completed and sent to them.

- **System studies of link projects:**

System study of Mahanadi-Godavari link project has been completed. System Studies of 4 more links viz; (a) Manas – Sankosh – Tista – Ganga Link (b) Subarnarekha – Mahanadi link (c) Ganga-Damodar-Subarnarekha Link and (d) Farakka – Sundarbans link project were awarded to IIT, Guwahati, NIT, Warangal, NIT Patna and NIH, Roorkee respectively in December, 2022. Inception Reports were submitted by the four Institutes in May, 2023 and their further progress was reviewed in a meeting held under Chairmanship of DG, NWDA on 15.02.2024. All the four Institutes have been requested to submit their Draft Final Reports by 30.04.2024. IIT, Guwahati and NIT Patna have submitted their Draft Reports on system study of MSTG & GDS links respectively.

Awarding of work for system studies for Godavari – Krishna – Pennar – Cauvery– Vaigai- Gundar linkage system has also been initiated.

- **India Water Week:**

Conceptualized and organized first in 2012, the Ministry of Jal Shakti, Government of India is organizing the India Water Week-2024 biannually. It is a 5-day conference and exhibition which is India's international water resources event. Eight editions of events have been organized in 2012, 2013, 2015, 2016, 2017, 2019 and 2022 and 2024.

- **National Interlinking of Rivers Authority (NIRA):**

The proposal for the constitution of National Interlinking of River Authority

(NIRA) is under active consideration in the Ministry. The issue was deliberated at length in 15th meeting of Task Force-ILR (TFILR) covering the need for its constitution, appropriate mode for its creations, mandate and functions, structure, subsuming the staff of NWDA into NIRA and additional requirements of posts, consultation mechanism etc.

The revised proposal for the restructuring of NWDA and creation of NIRA was deliberated by the Special Committee on ILR in its 19th meeting held on 12.11.2021 covering mandate and functions of NIRA, proposed structure, subsuming the staff of NWDA into NIRA and additional requirements of posts etc.

The proposal for constitution of NIRA has been prepared by NWDA and submitted to the Ministry on 17.12.2021. The Cabinet note was examined by Ministry and the finalized Cabinet note, duly approved by Hon'ble Minister, MoJS, was circulated amongst concerned Central Ministries/ Departments for comments on 28th February, 2022.

- The comments have been received from DoE, MoF, MoEF & CC, NITI Aayog, Deptt. of Agriculture & Farmer Welfares, Ministry of Agriculture and MoRD. The Other Ministries/ Departments have supported the constitution of NIRA.
- The Cabinet Note was further modified as per comments/ observations received from various Ministries/ Departments & modified Cabinet Note was submitted to Ministry.
- The Cabinet Note is under active consideration in Ministry.

### 7.3.2 NATIONAL WATER MISSION (NWM)

With the aim of addressing the adverse impacts of climate change on water resources, NWM was set up under the National Action Plan on Climate Change (NAPCC) by the Government of India on 30th June 2008. One of the main objectives of the mission is to ensure integrated water resource management which would help conserve water, minimize wastage and ensure more equitable distribution both across and within States.

The five goals of the mission are reflective of a non-siloed approach to water. The mission through its goals tries to break sectors & verticals in water policy for an integrated holistic approach to water. National Water Mission has revised its goals in view of anticipated challenges in water sector.

Five goals of NWM are as follows:

- Comprehensive water data base in public domain
- Assessment of the impact of climate change on water resource,
- Promotion of citizen and state actions for water conservation, augmentation and preservation and Focused attention to vulnerable areas including over-exploited areas,
- Increasing water use efficiency by 20%,
- Promotion of basin level integrated water resources management.

NWM has been addressing accomplishment of above five goals through implementation of 31 strategies

and 73 action points prescribed in the Mission Document.

#### Activities and new initiatives taken during the year

- **Setting up of Bureau of Water Use Efficiency (BWUE):**

Fulfilling the requirement of one of the goals of NWM, a Bureau was setup under the scheme "National Water Mission" in October 2022, for Promotion, Regulation, and Control of efficient use of water in Irrigation, Industrial and Domestic sectors in India to increase water use efficiency by 20%. The proposed Bureau will be a facilitator for promotion of improving water use efficiency across various sectors namely irrigation, drinking water supply, power generation, industries, etc. in the country. The Bureau may engage with various stakeholders in developing standards, making them to be implemented, preparing case studies, making necessary regulatory directions to promote water use efficiency, assessment of water foot print and water auditing in agriculture sector, showcasing national/international best practices and evolving innovative mechanism to secure community participation. The bureau will also spearhead campaign for promoting water use efficiency at the national level with a national perspective. For achieving the aforementioned goal and to prepare the framework for implementation of the bureau with defined time line, a Task Force was constituted on 19th Jan 2023, under the Chairmanship, of Shri Alok Sikka, country representative, India, International Water Management Institute) IWMI. The Task Force has

submitted its final report on 14th August 2023.

- **Water Heritage Structures:**

As part of Azadi Ka Amrit Mahotsav, National Water Mission identified 75 ancient water conservation structures across the Country and declared them as "Water Heritage Structures." These 75 Water Heritage Structures was declared by the committee constituted for this purpose. The details of these Water Heritage Structures may be seen at Jal-Itihas" sub-portal under India- WRIS portal.

To ensure standard and authentic documentation of the 75 Water Heritage Structures for facilitating further study, research, and student involvement, NWM assigned the INTACH the task of preparing a monograph for the declared structures. The monograph/technical publication, prepared by INTACH, has been reviewed and approved by NWM.

- **"Jal Shakti Abhiyan- Catch the Rain (JSA: CTR)" 2024 campaign:**

Jal Shakti Abhiyan-I (JSA-I) was conducted in 2019 in 1,592 blocks out of 2,836 blocks in 256 water stressed districts of the country and was expanded as "Jal Shakti Abhiyan: Catch the Rain" (JSA: CTR) in 2021, 2022 and 2023 to cover all the blocks of all districts (rural as well as urban areas) across the country. "Jal Shakti Abhiyan: Catch the Rain" (JSA: CTR) 2024 campaign, the fifth in the series of JSAs, was launched by Hon'ble Minister of Jal Shakti on 09.03.2024 in all districts (rural as well as urban areas) of the country for implementation from 09th March, 2024 to 30th November, 2024 - the pre-monsoon

and monsoon period with the main theme "Nari Shakti se Jal Shakti".

Jal Shakti Abhiyan, a flagship campaign of the National Water Mission, involves inter-sectoral convergence of all development programmes like MGNREGS, AMRUT, Repair, Renovation and Restoration Scheme, Water Shed Development Scheme, Per Drop More Crop etc. The abhiyan offers a major opportunity in leveraging convergence and working towards a greater vision of water conservation. "Jal Shakti Abhiyan: Catch the Rain brings in more collaboration from different Central Department/ Ministries as well State Governments to work in an integrated manner.

» **Focused interventions of the campaign:** The focused interventions of the campaign include (1) water conservation and rainwater harvesting; (2) enumerating, geo-tagging & making inventory of all water bodies; preparation of scientific plans for water conservation based on it; setting up of Jal Shakti Kendras in all districts; (4) intensive afforestation; and (5) awareness generation. Apart from the five focused interventions, JSA: CTR 2024 will have a distinctive emphasis on following key aspects this year: (i) de-silting and cleaning of water bodies; (ii) Revitalizing Abandoned/Defunct Borewells for groundwater recharge; (iii) Geo-tagging of water bodies, coupled with meticulous mapping and regular updates in the State's revenue records; (iv) Intensified



- afforestation efforts in the catchment areas surrounding water bodies; (v) Snow harvesting in hilly area like stupas in Ladakh for conserving water; and (vi) Rejuvenation of Small Rivers.
- » **Appointment of Central Ministries / Departments Nodal Officers and State Nodal Officers:** For seamless coordination and better implementation of the campaign, Nodal Officers from concerned Central Ministries/ Departments and State Nodal Officers from each State/ UT have been appointed.
  - » **Orientation of CNOs and TOs:** In order to discuss the modalities related to the field visits of CNOs and TOs, a workshop- cum-orientation programme was organized on 24th June, 2024 at Dr. Ambedkar International Centre (DAIC), New Delhi for the Central Nodal Officers and Technical Officers appointed for JSA: CTR-2024. The workshop was chaired by Hon'ble Minister for Jal Shakti. Among other officials, the meeting was also attended by Secretary, DoWR, RD & GR, Secretary, Department of Land Resources; Secretary, Department of Rural Development and Additional Secretary and Mission Director, National Water Mission, Ministry of Jal Shakti. During the workshop, presentations were made on 'Introduction of JSA: CTR – 2024 and Role of CNOs and TOs'. The workshop highlighted the role of CNOs and SNOs during their visit to the districts allotted to them.
  - » **Meetings with DM/DCs/ Municipal Administrators:** A series of meetings had been organized with District Magistrates/ District Collectors to discuss the progress of JSA: CTR-2024 and Jal Sanchay Jan Bhagidari (JSJB) initiative. In this series, two meetings were organized with DM/DCs through virtual mode wherein States apprised about the best practices being taken up in their respective areas for successful implementation of JSA: CTR-2024 campaign and ten meetings were organized DM/DCs through virtual mode for JSJB initiative. Action points for each meeting were prepared and sent to the DM/DCs of each State for necessary action.
- The National Water Mission webinar session on "Best Practices of Water management: (previously known as "Catch the Rain") Dialogues with DMs" was started from 7th August 2020. NWM has so far organized 45 Sessions "Dialogues with DMs" on Best Practices of Water management.
- » **Progress under Jal Shakti Abhiyan: Catch the Rain-2024:** As per the information uploaded by various stakeholders on the JSA: CTR portal ([jsactr.mowr.nic.in](http://jsactr.mowr.nic.in)), during the period of 09th March 2024 till 30th November 2024 under the JSA: CTR campaign, 5,86,856 water conservation & rain



water harvesting structures were created / ongoing, 1,57,483 traditional water bodies were renovated / ongoing, 2,73,499 reuse and recharge structures were completed/ ongoing and 8,72,493 watershed development structures were completed/ ongoing. Further, 5,45,43,174 afforestation activities were carried out under the campaign. 616 districts have prepared water conservation plans.

- **Financial assistance to districts for GIS Mapping of Water Bodies and for preparation of Scientific Plans:**

A financial grant of up to Rs 2.00 lakh to each district is provided in two installments of Rs. 1.00 lakh each to meet part of the expenditure in undertaking GIS mapping of water bodies and preparation of scientific action plan under JSA: CTR campaign. GIS Mapping of water bodies of a district depends on many factors such as area, geographic characteristics etc. Further, the task requires hiring of technical man-power for its completion. The financial grant of Rs 2.00 lakh was only meant to encourage the district authorities for undertaking the activity and was meant to cover only a part of the cost. First installment of Rs. 1.00 lakh each has been released to 623 districts till date. Second installment of Rs 1.00 lakh has been released to 235 districts.

- **Jal Shakti Kendras**

Jal Shakti Kendra is one of the most focused interventions of "Jal Shakti Abhiyan: Catch the Rain" campaign. The rationale behind forming a JSK in each district of the country is to establish a localized centre that can help the local population with the solution to all water-related activities. As water issues are impacted by the work of various Departments in the State Governments (e.g., Agriculture, Irrigation, Water Resources, Public Health Engineering, Land Resources, Soil & Water Conservation, Environment, Forest & Climate Change, Rural Development), the Jal Shakti Kendras will provide a single platform to synergize data flows with different organizations and make the information available to the local population. JSK will help the people in gathering and disbursing information related to any water-related issue.

Accordingly, it has been proposed to the States to set up Jal Shakti Kendras in every district of the country. All the State Governments have been requested to set up 'Jal Shakti Kendras' in every district headquarters as a part of the campaign. As per information available on 'Jal Shakti Abhiyan: Catch the Rain' portal ([jsactr.mowr.gov.in](http://jsactr.mowr.gov.in)), 701 Jal Shakti Kendras (JSKs) have been set up in various States/UTs.

- **Launch of "Jal Sanchay Jan Bhagidari" Initiative:**

Jal Sanchay Jan Bhagidari" initiative

under the Jal Shakti Abhiyan: Catch the Rain (JSA: CTR) campaign has been launched in Surat on 6th September, 2024 with a virtual address by the Hon'ble Prime Minister emphasizing the importance of jan bhagidari in water conservation. This initiative embodies a pledge for united action from all stakeholders, including government bodies, industries, local authorities, philanthropists, resident welfare associations (RWAs) and individuals with the aim to have a special focus on construct artificial recharge structures / borewell recharge/ recharge shafts among other activities, which will increase storage capacity and help to augment groundwater recharge.

The key objective of the Jal Sanchay Jan Bhagidari initiative is to ensure that every drop of water is conserved through collective efforts, following a whole-of-society and whole-of-government approach. By promoting community ownership and responsibility, the initiative

seeks to develop cost-effective, local solutions tailored to specific water challenges across different regions. The central goal is the construction of at least 1 million recharge shafts, with around 25,000 already being made, to enhance groundwater levels and support sustainable water management practices throughout the country.

A round table meeting was held under the Chairpersonship of the Secretary, DoWR, RD&GR, Ministry of Jal Shakti on 29th October 2024 to discuss on collaboration with Industries, Trusts, Associations, Chambers and Foundations to explore possibilities for diverting CSR Funds to implementation of the "Jal Sanchay Jan Bhagidari" (JSJB) initiative under the ongoing Jal Shakti Abhiyan: Catch the Rain (JSA: CTR) -2024 campaign. 24 industries were invited to participate and 20 shows their involvement, with a total of 43 representatives attend the meeting.



Jal Sanchay Jan Bhagidari Initiative

A meeting to explore the Possibilities of collaboration with NGOs was held under the Chairpersonship of the Additional Secretary & Mission Director, National

Water Mission, Ministry of Jal Shakti on 23rd October 2024 to discuss a special focus on construct artificial recharge structure/borewell recharge/ recharge

shafts among the other activities for implementation of the "Jal Sanchay Jan Bhagidari" (JSJB) initiative under the ongoing Jal Shakti Abhiyan: Catch the Rain (JSA: CTR) 2024 campaign.

- **Preparation of State Specific Action Plans for Water Sector:**

NWM envisaged developing State Specific Action Plan (SSAP) for water sector covering irrigation, industry, domestic and waste water of a State/UT. NWM is providing financial assistance of Rs. 50 Lakh to major States and Rs. 30 Lakh to minor States/ UTs as a grant for formulation of SSAPs for water sector. NWM engaged two nodal agencies for coordination and monitoring of SSAP formulation. North Eastern Regional Institute of Water and Land Management (NERIWALM), Tezpur, Assam is coordinating & monitoring SSAP formulation for 19 States and National Institute of Hydrology (NIH), Roorkee, Uttarakhand is coordinating & monitoring with remaining 16 States/UTs. So far, 35 States/ UTs have signed MoUs with the Nodal Agencies. 24 States/UTs have submitted the first phase of draft status report. 05 States/UTs namely Haryana, Andaman & Nicobar Islands, Chandigarh, Tripura and Uttarakhand have submitted the second phase of Interim Report. 03 States namely Uttar Pradesh, Maharashtra & Gujarat has submitted the Final SSAP Report and approved by Competent Authority.

- **HRD & Capacity Building and Mass Awareness Programmes:**

Goal - III of NWM envisages 'Promotion of citizen and state actions for

water conservation, augmentation and preservation, and focused attention to vulnerable areas including over-exploited areas.' Capacity building of organizations associated with water resources development and management is one of the action points under strategy 3.1 (b) of this Goal. In this direction the National Water Mission provide grants to various Central/ State Government Organizations and and academic institutions of national repute across the nation for conducting training & capacity building programs. This year training proposals submitted by WALMI Dharwad, NERIWALM Tezpur, WALAMTARI Hyderabad, CWRDM Kerala, NIH Roorkee, ICAR-IISWC Bhubaneswar have been approved (as on date). for the very purpose.

- **Baseline Studies:**

To evaluate water use efficiency of the major/medium irrigation projects, National Water Mission (NWM) has completed 17 baseline studies through 3 premier institutes namely Water and Land Management Training and Research Institute (WALAMTARI), Hyderabad, Water and Land Management Institute (WALMI), Aurangabad, Centre for Water Resources Development and Management (CWRDM), Kozhikode. The overall project efficiency of the studied projects comes out at 38% (the group weighted average on culturable command area basis).

- **Benchmark Studies:**

To enhance water use efficiency in some of the water intensive industries viz. Thermal Power plants, Textile, Pulp & Paper and Steel Industry, NWM had awarded a benchmarking study to The

Energy and Resources Institute (TERI) regarding "Benchmarking Industrial Water Use to Assist Policy for Enhancing Industrial Water Use Efficiency in India". The study focuses on two industrial sectors viz. Thermal Power Plants & Textile Industries in Phase-I and Pulp & Paper and Steel Industries in Phase-II. TERI has submitted its final report on both Phase I (Thermal Power Plants, Textile Industries) and Phase II (Pulp & Paper and Steel Industries).

- **Sahi Fasal:**

The "National Water Mission" launched the "Sahi Fasal" campaign in year 2019 to improve water use efficiency in the agriculture sector. The campaign aims to nudge farmers in water-stressed areas to grow crops that are less water-intensive, more water-efficient, economically rewarding, nutritious, suited to the agro-climatic and hydrological characteristics of the region, and environmentally sustainable. Under the Sahi Fasal initiative, the Bureau of Water Use Efficiency (BWUE), in collaboration with the Atal Bhujal Yojana, planned 14 nos. of workshops across 7 states during the financial year 2024-25. Out of these, 09 nos. of workshops have been successfully conducted in 06 states, covering districts such as Kolar, Baramati, Bhiwani, Banda, Bagpat, Gandhi Nagar, Banaskatha, Sagar, Panna of Karnataka, Maharashtra, Haryana, Uttar Pradesh, Gujarat, and Madhya Pradesh respectively. The remaining 5 workshops are scheduled to be held in Arunamti (Maharashtra), Chitradurga (Karnataka), Kurukshetra (Haryana), and Hanumangarh and Rajsamand (Rajasthan). These workshops

are a significant step toward enhancing water use efficiency and promoting sustainable agricultural practices in the targeted regions.

- **Mandating Low Flow Fixtures:**

Water scarcity and insecurity has become a crucial issue worldwide with consistent increase in global water withdrawals in the last century and it is predicted that more than half of the global population will be living in water-stressed areas by 2050. The standards, IS 17650 (Part 1) and IS 17650 (Part 2) cover additional requirements for assessment and water efficiency rating of the sanitary wares (such as water closets, squatting pans, flush valves, flushing cisterns and urinals) and sanitary fittings [such as faucets (taps) and showerheads] for their performance based on water efficiency. Department for Promotion of Industry and Internal Trade (DPIIT) has been requested to consider Water Use Efficiency as additional criteria in the scope of Quality Control Orders issued by them after due stakeholders' consultation process.

Also, a research study has been proposed to be conducted in residential, commercial and institutional establishments to assess the quantum of water savings by deploying low flow fixtures (conforming to BIS code IS-17650 Part-1 & Part-2).

- **Water Talks:**

A monthly 'Water Talk' lecture series is an important activity undertaken by the NWM with the aim to stimulate awareness, build capacities of stakeholders and encourage people to become active participants to sustain life by saving water



on earth. Leading water experts are invited to present inspiring and broadening perspectives on current water issues in the country. 'Water Talk' series was launched on 22nd March 2019 on the occasion of World Water Day. NWM has so far organized 57 'Water-Talks' on a wide range of topics dominating water sector with a wide range of speakers from NGOs to grassroot workers.

- **Mission Lifestyle for Environment (LiFE):**

The National Water Mission organized field visits and social media campaigns as part of Mission LiFE (Lifestyle for Environment) outreach activities for mass mobilization ahead of World Environment Day 2024. Events were conducted on 31st May in Rishikesh, Uttarakhand, 1st June in Haridwar, Uttarakhand, and 5th June at Hauz Khas Lake, New Delhi. These efforts aimed to raise awareness about sustainable lifestyles and promote public engagement in environmental conservation.

The NWM also organized a plantation drive under "Ek Ped Maa Ke Naam" Campaign launched by Hon'ble Prime Minister, on 29th November, 2024 at the National Zoological Park in Delhi. A total of 15 saplings were planted at the zoo by Additional Secretary & Mission Director and other officers of NWM. All the staffs of NWM participated in the event and spread awareness among the masses by shouting slogans "Ma Ke Naam Ek Ped Lagaye, Jal Sankat Ko Dur Bhagaye" "Ma Ke Naam Ek Ped Lagaye, Pani ki Har Bund Bachaye" from CGO Complex to the National Zoological Park in Delhi. The event was

successfully completed, and videos and photos of the activity have been uploaded to the Mission LiFE portal for documentation.

### **7.3.3 NATIONAL INSTITUTE OF HYDROLOGY (NIH)**

The NIH was established in December 1978 at Roorkee. The Institute is fully aided by the MoJS, DoWR, RD& GR. The objectives of the Institute are:

- To undertake, aid, promote and coordinate systematic and scientific work on all aspects of hydrology,
- To cooperate and collaborate with other national and international organizations in the field of hydrology,
- To establish and maintain a research and reference library in pursuance of the objectives of the society and equip the same with books, reviews, magazines and other relevant publications,
- To carry out activities that the Society may consider necessary, incidental or conducive to the attainment of the objectives for which the Institute has been established.

The major theme wise R&D activities: (1) environmental hydrology; (2) ground water hydrology; (3) hydrological investigations; (4) surface water hydrology; and (5) water resources systems. (6) centre for cryosphere and climate change studies. In addition, the Institute has a Technical Cell, which provides the interface with various research and academic institutions along with R&D activities.



The Institute has set up seven regional centers: (1) Hard Rock Regional Centre (Belagavi); (2) Western Himalayan Regional Centre (Jammu); (3) Deltaic Regional Centre (Kakinada); (4) Central India Hydrology Regional Centre (Bhopal); (5) North Eastern Regional Centre (Guwahati); and (6) Centre for Flood Management Studies for Ganga basin (Patna); and (7) North Western Regional Centre (NWRC), Jodhpur.

### **Studies and Research:**

The Institute carries out a significant number of demand driven, user-defined, and strategic studies in the area of hydrology and water resources. The broad categories of research tasks are given as below:

- » Basic studies and research
- » Applied studies and research
- » Software development
- » Field and laboratory-oriented and strategic research
- » Sponsored research and consultancy

- » Capacity building and training activities
- » Advisory services to NGT & judiciary
- » Inputs in policy making

The Institute has the following well-equipped laboratories with state-of-art instruments to provide the necessary support to field studies:

- » Hydrological Instrumentation Lab
- » Nuclear Hydrology Lab
- » Remote Sensing & GIS Lab
- » Soil Water Lab
- » Water Quality Lab
- » Hydro-meteorological observatory

### **Thrust Area of Research and R&D Capabilities:**

Major thrust areas of research in hydrology & water resources along with R&D capabilities of the NIH are given as under.

Thrust Area of Research	R&D Capabilities
<ul style="list-style-type: none"> <li>• Water Resources Planning and Management</li> <li>• Ground Water Modeling and Management</li> <li>• Flood and Drought Prediction and Management</li> <li>• Snow and Glacier Melt Runoff Estimation</li> <li>• Prediction of Discharge in Ungauged Basins</li> <li>• Water Quality Assessment</li> <li>• Hydrology of Arid, Semi-arid Regions</li> </ul>	<ul style="list-style-type: none"> <li>• Flood and Drought Studies</li> <li>• Ground Water Hydrology, Managed Aquifer Recharge</li> <li>• River Bank Filtration Studies</li> <li>• Sprigshed Management</li> <li>• Hydrological Investigations</li> <li>• Isotope Applications in Hydrology</li> <li>• Surface &amp; Ground Water Quality Studies</li> <li>• Inland &amp; Coastal Salinity Studies</li> <li>• Environmental Flows Assessment &amp; EIA</li> </ul>

Thrust Area of Research	R&D Capabilities
<ul style="list-style-type: none"> <li>Hydrology of Coastal &amp; Deltaic Zones</li> <li>Reservoir/Lake Sedimentation</li> <li>Impact of Climate Change on Water Resources</li> <li>Application of Modern Techniques in Hydrology</li> <li>Hydrology of Reservoir, Lakes and Wetlands</li> <li>Hydrology of Extremes</li> <li>Environmental Hydrology</li> <li>Regional Hydrology</li> <li>Hydrology for Watershed Management</li> <li>Integrated Water Resource Management (IWRM)</li> <li>Springs rejuvenation and Isotope applications in hydrology</li> <li>Hydrology for Arid Region</li> <li>Forest Hydrology &amp; Urban Hydrology</li> <li>Cryosphere and Climate Change Studies in Hydrology</li> </ul>	<ul style="list-style-type: none"> <li>Remote Sensing &amp; GIS Applications</li> <li>Reservoir Analysis &amp; Sedimentation</li> <li>Snow and Glacier Hydrology</li> <li>Impacts of Climatic Change on Hydrology and Water Resources</li> <li>Rejuvenation of Ponds &amp; Rivers</li> <li>Eco - Prudent Wastewater Treatment</li> <li>Water Budget, Water Conservation /RWH</li> <li>Watershed Hydrology</li> <li>Lake Hydrology</li> <li>Glacial Lake Outburst Flood studies</li> <li>Hydro-meteorological Observations</li> <li>Integrated Water Resource Management</li> <li>Hydrological Software Development</li> <li>Development and Application of Decision Support Systems</li> <li>Hotspot Analysis / Livelihood Vulnerability Index</li> <li>Hydro-geological Studies for Power Projects</li> </ul>

During the year FY 2024-2025 (upto Dec. 2024), the Institute has published 126 research papers in reputed international/national journals including proceedings of international/national conferences/ symposia/book chapters and books. During the year, the Institute (at HQ and 7 RC) has worked on 111 internally funded R&D studies, 28 sponsored projects by external organizations as well as various demand driven consultancy projects across the country. Apart from R&D activities, the Institute has also organized 39 trainings and workshops during the

year 2024-25 for capacity building of field engineers, scientists, researchers, etc., enabling training of more than 1134 people during the year. The Institute has also organized various mass awareness activities across the country at HQ (Roorkee) and its 7 regional centers (Jammu, Patna, Guwahati, Bhopal, Belagavi, Kakinada and Jodhpur).

#### **7.3.4 NORTH EASTERN REGIONAL INSTITUTE OF WATER AND LAND MANAGEMENT (NERIWALM)**

The objective of North Eastern

Regional Institute of Water and Land Management (NERIWALM) is to promote advancement of science and acquisition of scientific knowledge to provide instruction/and training in water and land management for irrigation and agriculture. The institute imparts instructions and training by addressing local specific, problem oriented technologies for effective utilization and management of water for agriculture ensuring both production and environment sustainability. The issues are addressed through different disciplinary divisions and caters the requirement of all states of NE region namely Assam, Arunachal Pradesh, Manipur, Mizoram, Meghalaya, Nagaland, Sikkim and Tripura. It also undertakes research and consultancy projects and develop human

resources through academic course such as M. Tech in Water Resource Management and Ph. D programme.

During the year 2024-25 (April 2024 to March 2025), the target for training programme recommended by Technical Advisory Committee of NERIWALM was 65 for different target groups like officers, farmers, water users associations, women group/farmers, other stakeholders and students. In the year 2024, from 1st April, 2024 to 10th December, 2024, 59 Nos. of training programmes were organized by the institute and benefitted 2344 persons. The breakup of number of training programme and participants from 1st April, 2024 to 10th December, 2024 is given below:

Target group	Target for Number of training programme (1st April, 2024 to 10th December, 2024)	Achievement Number of training programme (1st April, 2024 to 10th December, 2024)	Achievement Number of participants (1st April, 2024 to 10th December, 2024)	Projection of training programme for January, 2025 to March, 2025
Officers	24	20	939	6
WUAs/ Farmers	18	21	820	2
Women groups/ farmers	01	01	24	1
NGO	0	0	0	1
Student	12	17	561	0
<b>Grant Total</b>	<b>55</b>	<b>59</b>	<b>2344</b>	<b>10</b>

The training programme of NERIWALM is prepared based on the financial year i.e, from April, 2024 to March, 2025. The target was 65 Nos. out of which the target from 1st April, 2024 to 31st December, 2024 was 55 Nos. of

training programmes. The institute achieved 59 Nos. of training programme from 1st April to 10th December, 2024 which is 107 percent and benefitted 2344 persons. In this year the institute organised 05 (five) weekly induction training

programmes as per demand by Irrigation Department Government of Assam, and Agriculture Department, Government of Assam, Brahmaputra Board, and 01 (one) faculty development programme for faculty of Assam Agricultural University. Another 02 (two) weekly induction training programmes for newly recruited officers of CGWB will be organised in January, 2025 by NERIWALM in collaboration with RGNGWTRI. In addition to this, 01 (one) National Seminar on Advances in Irrigation Technologies and Management was also organised in collaboration with 08 organisations working in water sector. NERIWALM shall complete the targeted training programmes in the financial year 2024-2025.

### **7.3.5 NATIONAL MISSION FOR CLEAN GANGA (NMCG)**

NMCG is administered by five-tier structures at the national, state and district levels to take measures for prevention, control and abatement of environmental pollution in river Ganga and to ensure continuous adequate flow of water to rejuvenate the river Ganga as below:

- » National Ganga Council under the chairmanship of the Hon'ble Prime Minister of India (last NGC meeting held on 30th December 2022).
- » Empowered Task Force (ETF) on river Ganga under the chairmanship of Hon'ble Union Minister of Water Resources, River Development and Ganga Rejuvenation.
- » National Mission for Clean Ganga.
- » State Ganga Committees.

- » District Ganga Committees in every specified district abutting river Ganga and its tributaries in the States.

- **National Ganga Council:**

The NGC is responsible for the 'protection, prevention, control and abatement of environmental pollution in River Ganga', and for 'its rejuvenation to its natural and pristine condition, and 'to ensure continuous adequate flow of water in the River Ganga,' and with connected matters.

- » **1st National Ganga Council Meeting:**

The first meeting of the National Ganga Council (NGC) was held at Kanpur under the Chairmanship of the Hon'ble Prime Minister. The meeting was attended by Members of the Union Council of Ministers, Chief Ministers, and Deputy Chief Minister of Ganga Basin States, among others. During the 1st meeting of NGC, the discussion includes expediting sewerage projects, effective management of municipal solid waste, resource recovery from wastewater, capacity building of Urban Local Bodies, sustainable agriculture, forestry interventions, Ganga Dolphin Project, Integrated Wetland Conservation, protection of flood plains, youth involvement in river conservations, institutional development for DGCs and continuation of Namami Gange beyond 2020 in view of long term O&M, 15 year annuity for HAM

projects and regulatory role as an authority and projects on tributaries.

» **2nd National Ganga Council Meeting:**

The 2nd meeting of the National Ganga Council was held under the chairmanship of the Hon'ble Prime Minister of India at Kolkata. Hon'ble PM joined via video conferencing, while the other members of NGC were physically present.

During the meeting Hon'ble Prime Minister complimented the functioning of NMCG and mentioned the selection of Namami Gange as one of the top 10 Eco-Restoration Flagships of the world by UN agencies. He said that it was a great opportunity to discuss ways to further strengthen the Namami Gange initiative. Hon'ble PM spoke about ways to enhance cleanliness efforts including expanding the network of sewage treatment plants in the smaller towns. He also emphasised ways to enhance various forms of herbal farming along the Ganga and the need to boost tourism infrastructure along the river, which can provide livelihood opportunities to several people.

• **Empowered Task Force (ETF):**

An Empowered Task Force under the Chairmanship of Union Minister for Jal Shakti has been constituted to exercise the powers and discharge functions as specified in NMCG Authority Order and Environment Protection Act. The Committee has representation of Chief Secretaries of States on Ganga basin besides Secretaries from concerned departments of the Government of India. The Empowered Task Force coordinates and advises on matters relating to Rejuvenation, Protection and Management of river Ganga and its tributaries and require the Ministries, Departments and State Government to frame Action Plan with specific activities timelines and mechanism for their implementation.

During this year, 12th & 13th ETFs were conducted on 10th September 2024 and 9th December 2024 respectively, which were chaired by Hon'ble Minister of Jal Shakti. The meetings were also attended by Hon'ble Minister of State for Jal Shakti, Director General, NMCG along with senior officials from Central Ministries, Departments and concerned state governments.



Glimpses of 12th & 13th ETF chaired by Hon'ble Minister and MoS, Ministry of Jal Shakti



- **Governing Council:**

The Governing Council is headed by the Director General of NMCG and comprises members from MoEF&CC, MoHUA, NMCG etc. The Governing Council may constitute a sub-committee from out of its members and also by associating some technical experts for appraisal of the projects. The Sub-Committee of the Governing Council shall appraise the project only after completion of the Third third-party appraisal of the project by technical experts or a consortium of recognized institutes or Indian Institutes of Technology, as the case may be.

- **Executive Committee (EC):**

As per the River Ganga (Rejuvenation, Protection and Management) Authorities Order, 2016, the National Mission for Clean Ganga has a two-tier management structure and Executive Committee is one of the two tiers. The Executive Committee is constituted out of the Governing Council and headed by Director General NMCG. Executive Committee has been authorized to accord approval for all projects up to Rs. 1,000 crores. The Executive Committee includes the Joint Secretary, Department of Expenditure, Representative of NITI Aayog

(not below Joint Secretary), Principal Secretaries of Ganga States, and all senior officials of NMCG. Between January and December 2024, a total of 7 EC meetings were held, bringing the overall count to 59 EC meetings.

- **State and District Ganga Committees:**

The State Ganga Committee headed by the Chief Secretary of the respective State has representation of Principal Secretaries of relevant Departments of the State besides five experts from relevant fields nominated by the State Government.

Similarly, the District Ganga Committee is headed by the District Magistrate of the district abutting river Ganga, which has representation of two nominated members from Municipalities and Gram Panchayats of the District, one member each from concerned Departments.

The Committee is constituted based on nominations received from the Government Authority and with the approval of the Hon'ble Minister of Jal Shakti. So far 52 DGCs on Ganga main stem and 87 on tributaries have been duly notified as per the following breakup:

**Table: District Ganga Committees on Ganga and its Tributaries**

S. No	Name of the State	DGC constituted on main stem of Ganga	No. of DGC constituted Tributaries of river Ganga
1	Uttarakhand	7	6
2	Uttar Pradesh	25	50
3	Bihar	12	26
4	Jharkhand	1	3
5	West Bengal	7	2
	Total	52	87

### Major Achievements from January to December 2024:

- **Hon'ble Prime Minister Inaugurated Sewerage Infrastructure Projects of Masani and Moradabad, Uttar Pradesh:**

On 25th January, 2024, the Hon'ble Prime Minister inaugurated the following sewerage infrastructure projects with a cumulative cost of Rs. 790.5 Crores.

- » Construction of 30 MLD STP at Masani, Mathura

- » Rehabilitation of existing 30 MLD at Trans Yamuna and 6.8 MLD STP at Masani, Mathura
- » Construction of 20 MLD Tertiary Treatment and Reverse Osmosis Plant (TTRO plant) at Masani, Mathura
- » Construction of 58 MLD STP with 264 km and Sewerage Network at Moradabad



Hon'ble Prime Ministers inaugurated the of Sewerage Infrastructure Projects at Masani and Moradabad, Uttar Pradesh

- **Hon'ble Union Minister of Jal Shakti inaugurated 14 MLD STP of Baghpat, Uttar Pradesh:**

On 4th January 2024, the Hon'ble Union Minister of Jal Shakti inaugurated 14 MLD Sewage Treatment Plant (STP) with 2.4 km Interception & Diversion (I&D) Network worth ₹ 77.36 crores in Baghpat, Uttar Pradesh.

- **Hon'ble Union Minister of Jal Shakti laid Foundation Stone of 220 MLD STP at Meerut, Uttar Pradesh:**

On 18th January 2024, the Hon'ble Union Minister of Jal Shakti laid the foundation stone for the 220 MLD Meerut sewage treatment plant (STP) with interception and diversion (I&D) project worth Rs. 370 crores in Meerut, Uttar Pradesh.

- **Hon'ble Prime Minister Inaugurated Sewerage Infrastructure Projects of Bally, Kamarhati & Baranagar and Howrah, West Bengal:**

On 1st March 2024, the Hon'ble

Prime Minister inaugurated three projects worth Rs. 575 crores from Hooghly, West Bengal. The projects include:

- » STP with a capacity of 40 MLD and Interception & Diversion work at Bally, West Bengal, with a sanctioned cost of Rs 191.51 crore;
- » STP with a capacity of 60 MLD

and Interception & Diversion work at Kamarhati and Baranagar Municipalities, West Bengal, with a sanctioned cost of ₹174.15 crore;

- » STP with a capacity of 65 MLD and Interception & Diversion work at Howrah, with a sanctioned cost of Rs. 209.13 crore.



Hon'ble Prime Ministers inaugurated the Sewerage Infrastructure Projects at Bally, Kamarhati & Baranagar and Howrah, West Bengal

• **Hon'ble Prime Minister Inaugurated Sewerage Infrastructure Projects of Patna, Bhagalpur, Saran and Chapra, Bihar:**

On 2nd March 2024, the Hon'ble Prime Minister inaugurated twelve projects worth ₹2,189 crores from Aurangabad, Bihar. These projects include:

- » STP with a capacity of 60 MLD and sewerage network at Saidpur, Patna, with a sanctioned cost of ₹184.93 crore

- » Sewerage network of 162 km at Saidpur, Patna; with a sanctioned cost of ₹268.63 crore
- » STP with a capacity of 60 MLD and sewerage network at Pahari, Patna; with a sanctioned cost of ₹191.62 crore
- » Sewerage network of 93 km at Hill Zone IVA, Patna; with a sanctioned cost of ₹230.48 crore
- » Sewerage network of 116 km at Hill Zone V, Patna; with a sanctioned cost of ₹356.37 crore

- » Sewerage network of 180 km at Beur, Patna; with a sanctioned cost of ₹225.77 crore
- » Sewerage system and sewerage network of 96 km at Karmalichak, Patna; with a sanctioned cost of ₹277.42 crore
- » STP with capacity of 11 MLD and I&D network at Barh, Patna; with sanctioned cost of ₹58.26 crore
- » STP with capacity of 10 MLD and I&D network at Sultanganj, Bhagalpur; with sanctioned cost of ₹60.22 crore
- » STP with capacity of 9 MLD and I&D network at Navgachia, Bhagalpur; with sanctioned cost of ₹60.79 crore
- » STP with capacity of 3.50 MLD and I&D network at Sonpur, Saran; with sanctioned cost of ₹38.26 crore
- » STP with capacity of 32 MLD and I&D network at Chapra; with sanctioned cost of ₹236.15 crore.



Hon'ble Prime Ministers inaugurated the Sewerage Infrastructure Projects at Patna, Bhagalpur, Saran and Chapra, Bihar

- **Hon'ble Prime Minister Inaugurated Sewerage Infrastructure Projects of Prayagraj, Jaunpur and Etawah, Uttar Pradesh:**

(District - G, 42 MLD), Phaphamau (District-F, 14 MLD) and Jhunsi (16 MLD), Prayagraj; with sanctioned cost of ₹767.59 crore;

On 10th March 2024, the Hon'ble Prime Minister inaugurated three sewage projects worth Rs. 1,114 crores from Azamgarh, Uttar Pradesh. These projects include;

  - » STP with capacity of 72 MLD and I&D network work at Naini
  - » STP with capacity of 30 MLD and I&D network work at Jaunpur; with sanctioned cost of ₹206.05 crore;
  - » STP with capacity of 45 MLD and I&D network work at Etawah; with sanctioned cost of ₹140.6 crore.





Hon'ble Prime Ministers inaugurated the Sewerage Infrastructure Projects at Prayagraj, Jaunpur and Etawah, Uttar Pradesh

- **Inauguration and Laying of Foundation Stones for STP Projects by the Hon'ble Prime Minister:**

On 2nd October 2024, the Hon'ble Prime Minister inaugurated and laid the foundation stone for ten sewage treatment plant (STP) projects with a total cost of ₹1,555 crore. Among these, five projects of Uttar Pradesh and Bihar worth ₹534.25 crore were inaugurated. These projects include;

- » 15 MLD STP in Kairana, Uttar Pradesh;
- » 10 MLD STP with a 1.0 km sewerage network in Budhana, Uttar Pradesh;
- » 54.5 MLD STP with a 5.91 km sewerage network in Muzaffarnagar in Uttar Pradesh;
- » 6.5 MLD STP with a 5.5 km sewerage network in Maner town in Bihar;
- » 25 MLD STP in Danapur in Bihar.

Additionally, the Hon'ble Prime Minister laid the foundation stone for five

more projects of Bihar, Jharkhand, and Uttar Pradesh, worth ₹1,021 crore. These projects include;

- MLD STP in Kahalgaon;
- 21 MLD STP in Dehri on Sone in Bihar;
- 40 MLD STP in Ramgarh, Jharkhand;
- 60 MLD STP in Mathura;
- 43 MLD STP in Prayagraj in Uttar Pradesh.

**NMCG Projects:** NMCG has sanctioned a total of 488 projects at an estimated cost of ₹39,604 crores. Out of these, 303 projects have been completed so far. From January 2024 to December 2024, a total of 39 projects were sanctioned at a cost of ₹2,056 crore. During this period, 25 projects were completed, including 16 sewerage projects, which resulted in the creation of a 750 MLD treatment capacity. These projects pertain to sewage infrastructure, Solid Waste Management, Industrial Effluent Treatment, R&D projects, Biodiversity & Afforestation, Public Outreach Projects, Knowledge Projects, etc.



**Table: Details of projects taken under the Namami Gange Programme**

(As of 30th November 2024)

Sl. No.	Projects Undertaken	No. of Projects	Sanction Cost (Rs in Cr)	No. of Projects Completed	Total Expenditure (Rs in Cr)
<b>1</b>	<b>Nirmal Ganga - Pollution Abatement Projects</b>				
<b>a</b>	<b>Sewage Treatment</b>				
<b>i</b>	Sewage Infrastructure	203	32,613.2	126	15,523.1
<b>ii</b>	Bioremediation	14	239.0	10	40.1
<b>iii</b>	Innovative Projects on Sewerage Treatment	5	155.6	0	0.0
	<b>Sub Total</b>	<b>222</b>	<b>33,007.8</b>	<b>136</b>	<b>15,563.3</b>
<b>b</b>	<b>Solid-Waste Management</b>				
<b>i</b>	Ghats & Crematoria	109	1,811.5	82	1,267.2
<b>ii</b>	Ghats Cleaning	5	59.8	4	52.2
<b>iii</b>	River Surface Cleaning	1	33.5	1	19.5
<b>iv</b>	Solid Waste/Sanitation	7	354.3	5	120.9
<b>v</b>	Construction of toilets across	1	1,020.0	1	989.0
	<b>Sub Total</b>	<b>123</b>	<b>3,279.1</b>	<b>93</b>	<b>2,448.9</b>
<b>c</b>	<b>Industrial Effluent Treatment</b>				
<b>i</b>	CETP Upgradation	5	1,055.2	2	265.2
<b>ii</b>	Innovative Projects Regarding industrial Pollution Management	3	21.5	1	0.4
	<b>Sub Total</b>	<b>8</b>	<b>1,076.8</b>	<b>3</b>	<b>265.6</b>
<b>d</b>	<b>Surveillance &amp; Monitoring</b>				
<b>i</b>	Industrial Surveillance	3	236.9	2	140.5
<b>ii</b>	River Water Quality Monitoring	4	356.1	2	74.9
<b>iii</b>	Institutional Support for Laboratories	5	86.0	0	43.0
	<b>Sub Total</b>	<b>12</b>	<b>679.0</b>	<b>4</b>	<b>258.4</b>
<b>e</b>	<b>R&amp;D Projects</b>				
<b>i</b>	R&D Projects (Water Quality)	1	0.2	1	0.2
<b>ii</b>	R&D Projects (Sewage Treatment)	2	6.2	0	1.9
	<b>Sub Total</b>	<b>3</b>	<b>6.4</b>	<b>1</b>	<b>2.0</b>
	<b>Total (Nirmal Ganga)</b>	<b>368</b>	<b>3,804.9</b>	<b>237</b>	<b>18,538</b>
<b>2</b>	<b>Aviral Ganga - Ecological Projects</b>				
<b>a</b>	<b>Biodiversity &amp; Afforestation</b>				
<b>i</b>	Fisheries	5	52.2	4	24.9
<b>ii</b>	Aquatic wildlife	7	145.7	3	79.4
<b>iii</b>	Wetlands	2	31.3	0	0.0
<b>iv</b>	Constructed Wetland Projects	1	95.5	0	0.0
<b>v</b>	Spring Rejuvenation	1	1.4	0	1.1
<b>vi</b>	Biodiversity Park	3	42.3	0	5.0

Sl. No.	Projects Undertaken	No. of Projects	Sanction Cost (Rs in Cr)	No. of Projects Completed	Total Expenditure (Rs in Cr)
<b>2</b>	<b>Aviral Ganga - Ecological Projects</b>				
<b>vii</b>	Afforestation	37	537.3	32	374.2
	<b>Sub Total</b>	<b>56</b>	<b>905.6</b>	<b>39</b>	<b>484.7</b>
<b>b</b>	R&D Projects				
<b>i</b>	R&D Projects	14	45.4	6	18.6
	<b>Sub Total</b>	<b>14</b>	<b>45.4</b>	<b>6</b>	<b>18.6</b>
<b>3</b>	<b>Arth Ganga - Livelihood Projects</b>				
<b>i</b>	Livelihood Projects	11	45.8	2	19.0
	<b>Sub Total</b>	<b>11</b>	<b>45.8</b>	<b>2</b>	<b>19.0</b>
<b>4</b>	<b>Jan Ganga - Public Outreach Projects</b>				
<b>i</b>	District Ganga Committee	1	2.3	0	0.0
<b>ii</b>	Educating Schools & Communities -Ganga River Dolphin	1	1.3	1	1.3
<b>iii</b>	Composite Ecological Task Force	3	332.2	2	193.9
<b>iv</b>	Ganga Mitra	4	2.8	4	2.0
<b>v</b>	Public Outreach Activity	8	88.2	4	20.1
	<b>Sub Total</b>	<b>17</b>	<b>426.9</b>	<b>11</b>	<b>217.2</b>
<b>5</b>	<b>Gyan Ganga - Knowledge Projects</b>				
<b>i</b>	GKC	2	48.5	1	2.2
<b>ii</b>	R&D Projects	11	108.9	6	51.4
<b>iii</b>	Urban Planning Projects	5	69.7	1	9.3
<b>iv</b>	Developing River Professionals	2	1.8	0	0.0
<b>v</b>	Institution Framework for International Cooperation	2	28.5	0	0.0
	<b>Sub Total</b>	<b>22</b>	<b>257.4</b>	<b>8</b>	<b>62.8</b>
	<b>Grand Total</b>	<b>488</b>	<b>39,730.1</b>	<b>303</b>	<b>19,340.5</b>

### Hybrid annuity-based PPP model:

The government of India has approved the adoption of the Hybrid Annuity Based Public-Private Partnership Model for the development of sewerage infrastructure under Namami Ganga.

Under HAM, NMCG has sanctioned 35 numbers of projects in 26 packages worth ₹13,378 crores. These projects are for the towns of Haridwar, Varanasi, Mathura, Kanpur, Unnao, Shuklaganj,

Prayagraj, Budhana, Muzaffarnagar, Mirzapur, Ghazipur, Moradabad, Bareilly, Ayodhya, Agra, Meerut, Mathura-Gokul Barrage, Saharanpur, Lucknow, Aligarh, Patna – Digha & Kankarbagh, Bhagalpur, Katihar Dhanbad, Kolkata- Howrah, Bally, Baranagar, Asansol, Durgapur, North Barrackpore, Maheshtala and Garden Reach. These projects shall create/ rehabilitate a sewage treatment capacity of 3,051.90 MLD. Of the 26 packages taken up on the hybrid annuity-based PPP model, 1

package for 82 MLD STPs at Haridwar, 1 package for 50 MLD STP at Ramana, 1 package of 30 MLD new STP and 20 MLD TTP at Mathura, 1 package of 72 MLD new STP and Rehabilitation of existing STPs at Prayagraj, 1 package of 17 MLD at Mirzapur and 21 MLD at Ghazipur, 1 package of 63 MLD STPs at Bareilly, 1 package of 10 MLD STP at Budhana & 22 STP at Sahawali Muzaffarnagar and 1 package of 165 MLD Capacity STPs Kolkata- Howrah, Bally, Baranagar has already been implemented and commissioned, for 12 packages, works have already been awarded and 6 are under implementation.

#### **Industrial Pollution Management:**

Reuse and recycling of wastewater in Industries have been promoted in water-intensive grossly polluting industrial units along the river Ganga. The industry-specific interventions are detailed below:

- An inventory of Grossly Polluting Industries (GPIs) has been made for prioritized monitoring. GPIs are industries discharging pollution load of BOD 100kg per day or more and/ or handling hazardous chemicals.
- The GPIs are inspected on an annual basis for compliance verification of the pollution norms and process modification, wherever required through third-party technical institutions of repute.

#### **Tannery Cluster:**

Three CETPs at the Kanpur region connected with the tanneries sector are being monitored on a quarterly basis.

- **Jajmau Tannery Cluster:** There are 350 tanneries operating in Jajmau Tannery Cluster at Kanpur. A project for an integrated industrial wastewater management system of 20 MLD capacity, has been approved by NMCG at an estimated cost of ₹741.36 Crores. The CETP construction work has been completed and the plant is in the stabilization stage.
- **Banthar Tannery Cluster:** There are a total 42 numbers of industries connected with CETP and out of these 42 units, 27 units are operational, and 15 units are non-operational. The up-gradation of Banthar CETP (4.5 MLD) has been taken up at the cost of ₹136.76 Crore. The upgradation work is under implementation.
- **Unnao Tannery Cluster:** There are a total 16 number of tannery industries connected with Unnao CETP. The up-gradation of Unnao CETP (2.6 MLD) has been taken up at the cost of ₹126.5 Crore.

#### **Textile Cluster:**

- **Mathura Textile Cluster:** There are a total 18 number of textile industries connected with Mathura CETP (6.25 MLD). The project works have been completed and the CETP plant is in the operational stage.
- **Pilkhuwa Textile Cluster:** There are a total 35 number of textile industries connected with Pilkhuwa CETP (2.1 MLD). After the involvement of NMCG upgradation

work has now been completed by Pilkhuwa SPV (own resources).

- **Rooma Textile Cluster:** Rooma has 1.55 ML D CETP, which is operational and CETP Rooma is run by Special Purpose Vehicle (SPV) namely Rooma Pollution Control Association of member units of Rooma.

#### **Water Quality Monitoring:**

Water quality monitoring of River Ganga is carried out manually as well as using sensors based real-time system.

- **Manual water quality:** Manual water quality monitoring of river Ganga is being carried out by CPCB at 112 locations in 5 main stem States through the respective SPCBs namely Uttarakhand (UK), Uttar Pradesh (UP), Bihar, Jharkhand and West Bengal (WB). As a result of multi-sectoral interventions water quality parameters viz. Dissolved Oxygen (DO) median has improved at 38 locations, Biochemical Oxygen Demand (BOD) median has improved at 44 locations and the faecal coliforms (FC) median has improved at 26 locations respectively.
- **Real-Time Water Quality Monitoring Stations (RTWQMS):** At present 40 Real-Time Water Quality Monitoring Stations (RTWQMS) have been installed on the main stem of river Ganga (17Nos) and its tributaries (23Nos) since July 2022. Real-time water quality data measured and transmitted from RTWQMS

installed in the river Ganga and its tributaries is displayed on a web portal and is received on an hourly basis 24x7 from all fixed stations (19Nos) and floating (21Nos) stations. These RTWQMS measure the water quality of river Ganga and its tributaries for 12 identified parameters through sensors.

- **Bio-monitoring of River Ganga and its tributaries:** Bio-monitoring has been carried out to study the Benthic Macro Invertebrates, which reflects the biological health of the river in the stretch from Gangotri (Uttarakhand) to Garden reach (West Bengal) at 42 locations of river Ganga and in the stretch from Yamunotri (Uttarakhand) to Prayagraj b/c river Yamuna (Uttar Pradesh) at 26 locations of river Yamuna. Besides, the main stream of river Ganga and Yamuna, bio-monitoring has also been carried out at 08 locations in each of the tributaries of river Ganga and Yamuna.
- **Ecology and Flow (Aviral Ganga):** As per the mandate given under the NMCG authority notification dated 07th October 2016, for maintaining the ecological flow of water in river Ganga, NMCG on 9th October 2018 has notified the minimum ecological flow in the river Ganga required to be maintained at different points in different stretches at all times, starting from originating glaciers and through respective confluences of its head

tributaries finally meeting at Devprayag up to Haridwar and the main stem of River Ganga up to Unnao district of Uttar Pradesh.

As per notification, monitoring of e-flows has been carried out Central Water Commission (CWC) since 1st January 2019. CWC is monitoring 11 projects (7 in Uttarakhand and 4 in Uttar Pradesh) and is submitting quarterly progress reports to NMCG.

#### **Other Basins:**

E-Flows Assessment in Ramganga Basin has also been conducted by GIZ and India- EU Water Partnership (IEWP) Action Phase II with NMCG. In December 2024, sanctioned a proposal for carrying out e flow assessment study of the four river basins i.e. Son, Damodar, Chambal and Tons to NIH at a cost of 10.88 crores for a period of 36 months.

- **Biodiversity:** NMCG has established partnerships with Wildlife Institute of India (WII), Dehradun, Uttar Pradesh State Forest Department (UPSFD), Central Inland Fishery Research Institute (CIFRI), Barrackpore, Centre for Environment Education (CEE), World Wide Fund for Nature (WWF) India and Turtle Survival Alliance Foundation India (TSAFI) is adopting a basin level approach through involvement of multiple stakeholders for biodiversity conservation and Ganga rejuvenation.

Under the biodiversity conservation program of NMCG, 18 projects have been sanctioned at a cost of ₹245.28 crores for the conservation & restoration of indigenous and endangered aquatic species of Ganga. Out of the 18 projects, 9 projects have been completed and 9 projects are under progress. This includes seven biodiversity parks in seven districts (Mirzapur, Bulandshahar, Hapur, Budaun, Ayodhya, Bijnore and Pratapgarh) of Uttar Pradesh.

- **Afforestation:**

Afforestation is a key component in the rejuvenation of the river Ganga. Accordingly, a DPR was prepared by FRI Dehradun for afforestation of 1,34,104 hectares in the Ganga basin States of Uttarakhand, Uttar Pradesh, Bihar, Jharkhand, and West Bengal at an estimated cost of ₹2,293.73 crore. Implementation of the DPR started from the year 2016-17 onwards, and expenditure of ₹414.2 crore has been incurred so far by the 5 State Forest Departments for plantation in 33,024 hectares.

- 35 projects have been sanctioned for afforestation works to the respective State Forest Departments of all the 5 States of Uttarakhand, Uttar Pradesh, Bihar, Jharkhand and West Bengal. Out of the 35 projects, 30 projects have been completed and 5 projects are under progress.

Details of the sanctioned projects are as under:



State	FY 2016-17 to 2023-24		
	No. of projects sanctioned	Cost (Expenditure in ₹ Cr.)	Total Area Covered under Plantation (in ha.)
Uttarakhand	7	144.4	12,306.00
Uttar Pradesh	7	77.2	9,165.53
Bihar	7	134.2	8,553.77
Jharkhand	7	27.8	884.00
West Bengal	7	30.5	2,114.70
<b>Total</b>	<b>35</b>	<b>414.2</b>	<b>33,024.00</b>

**Note:** Costs mentioned for years 2016-17 to 2023-24 are the actual expenditure incurred by the respective State Forest Departments.

- **Wetland Conservation:**

Wetlands are an important part of the riverine ecosystem and play an important role in maintaining flows in rivers, flood abatement, and groundwater recharge. They support rich floral and faunal diversity that also supports the livelihood of the local communities. However, these wetlands are threatened by various anthropogenic pressures, thereby disturbing the ecosystem services' role played by wetlands.

Wetland conservation is an integral component of the 'Namami Gange' programme, under which 5 projects have been sanctioned to State Forest Departments of Uttar Pradesh, Bihar, and Jharkhand at a total cost of ₹30.54 Crores, out of which 2 projects had been completed 1 each at UP & Jharkhand.

- **Research, Policy and Knowledge Management (Gyan Ganga):**

Ganga Knowledge Centre (GKC) is conceptualized as a premiere and autonomous knowledge-based institution

which will blend system characterization, innovation and stakeholder participation so as to optimize the investments of NGRBA. "Ganga Knowledge Portal: [www.gyanganga.ai](http://www.gyanganga.ai)" is a pioneering initiative developed in-house by the National Mission for Clean Ganga, serving as a centralized repository for comprehensive resources on water resource management. This platform is engineered to facilitate access for students, research scholars, stakeholders, and the general public to a vast array of materials (716 documents), including journals, publications, books, technical articles, research reports; data sets (District River Maps, STP performance and river atlas) and coffee table books. By concentrating on the intricacies of water resource challenges, Ganga Knowledge portal aims to enhance awareness and foster informed decision-making in this critical sector.

Central to the portal's functionality is its advanced AI-enabled module, developed in collaboration with the Wadhvani Group. This module utilizes

sophisticated algorithms to optimize information retrieval processes, allowing users to interactively engage with the knowledge base. The AI system not only streamlines access to relevant resources but also employs machine learning techniques to provide personalized content recommendations, thus enhancing the user experience and promoting deeper exploration of pertinent topics. By integrating cutting-edge artificial intelligence technologies, the portal sets a new benchmark for digital solutions in water resources, aiming to improve research outcomes.

GKC is running PRAYAG (Platform for Real-time Analysis of Yamuna, Ganga & their Tributaries). PRAYAG is a collaborative Platform to access Information, Data and Maps, Apps & Dashboards of NMCG. The significance of PRAYAG had brought a paradigm shift in the visualization of all crucial spatial and non-spatial information of the Ganga basin to adopt accurate & transparent decisions.

GKC has sanctioned different GIS-based research projects touching on different aspects of river rejuvenation to use geospatial data in a wide variety of areas, including legislative and policy development, the allocation and management of water resources, river system spatial planning, monitoring & basin management. Some of the key projects include:

- » Space-based Mapping & Monitoring of the Ganga River by Indian Institute of Remote Sensing, Dehradun;
- » Bhuvan Portal: NMCGG has a MoU with NRSC/ISRO for supporting

geospatial technology in 2015. Bhuvan Ganga Geoportal provides platforms to manage, access, visualize, share and analyze geospatial data, non-spatial data products and services, etc;

- » LiDAR Mapping: NMCG has collaborated with Survey of India to facilitate the Ganga rejuvenation task by using Geographic Information System (GIS) technology for mapping the Ganga basin in high resolution generating Digital Elevation Models (DEM);
- » Sand Mining Mapping using UAV Technology: Rapid assessment of sand mining and its impact on the Ganga River between Raiwala to Bhogpur stretch using historical remote sensing data and drone technology project;
- » Geomorphic and Ecological Impacts of Sand Mining in Large Rivers as revealed from high-resolution historical remote sensing data and drone surveys;
- » Other studies include Water bodies mapping using UAV technology, Corona Spy Satellite using Remote Sensing Technique, Spring Rejuvenation using Remote Sensing, GIS & UAV technology, Rejuvenation of dying springs in Tokoli Gad catchment of Tehri Garhwal District using Geochemical & Geophysical techniques, GIS-based Mapping of Microbial Diversity, Aquifer Mapping using Heliborn Survey by NGRI, Hyderabad, Climate Change scenario mapping using Weather

Research and Forecasting Model by IIT Delhi, Environmental Flow Assessment using GIS, RS, Survey by NIH, Roorkee, Soil Erosion Mapping by IIT Roorkee, Cultural Mapping using GIS by INTACH and 'Satellite Image-derived Water Quality Research' using Remote Sensing by WRI.

- **People River Connect (Jan Ganga):**

River Front Development (RFD), Ghat, Crematoria and Kunds/ Ponds rejuvenation: A total of 83 projects have been sanctioned for the

construction of 240 ghats and promenades, 63 crematoria and the rejuvenation of 9 kunds/ ponds. 209 ghats, 53 crematoria and 9 kunds have been completed.

#### Important Activities (under Jan Ganga)

- **Launch of Namami Niranjana Abhiyan:** On 20th February 2024, NMCG launched the "Namami Niranjana Abhiyan" aimed at ensuring the perennial flow of the Niranjana (Falgu) river and bolstering the ongoing efforts of the "Niranjana (Falgu) River Recharge Mission".



Glimpses from the Namami Niranjana Campaign

- **8th India Water Week 2024:** During the 8th edition of India Water Week (IWW) 2024 from 17-20 September 2024, in New Delhi, NMCG set the Namami Gange Pavilion, which was inaugurated by

the Hon'ble Union Minister of Jal Shakti in the presence of the Secretary, DoDWS, Secretary, DoWR, RD & GR, DG, NMCG, and other officials from NMCG and other organizations.



8th edition of India Water Week (IWW) 2024 from 17-20 September 2024 in New Delhi



- Ganga Utsav- A River Festival 2024:** On 4th November 2024, the 8th edition of Ganga Utsav was organized by NMCG at scenic Chandi Ghat in Haridwar to promote the conservation of the Ganga River, emphasize its cultural and spiritual importance, and raise public awareness about cleanliness. The event was inaugurated by the Hon'ble Union Minister of Jal Shakti

in the august presence of the Secretary, DoWR, RD & GR, Ministry of Jal Shakti, and DG, NMCG. This eighth edition of the event was the first to be held on the riverbank, with celebrations extending across 139 districts in the Ganga basin states. The event also marked the flag-off ceremony of the Ganga Women's Rafting Expedition in collaboration with BSF.



Ganga Utsav- A River Festival 2024 celebrated on 4th November 2024

- 9th India Water Impact Summit:**  
 The 9th India Water Impact Summit (IWIS) & 2nd Climate Investments and Technology Impact Summit were jointly organised jointly by NMCG & c-Ganga from 4th to 6th December 2024 at Bharat Mandapam, New Delhi. The event

was inaugurated by the Hon'ble Union Minister of Jal Shakti. The event focused on sustainable water management, and developing a collaborative platform which was aimed to establish the groundwork for transformative action on sustainable water management and urban development.



9th India Water Impact Summit organized from 4th to 6th December 2024 at Bharat Mandapam, New Delhi

- River People Connect by Boosting Economy and Livelihood (Arth Ganga):** In 2019, during the inaugural of the National Ganga Council meeting in Kanpur, Hon'ble Prime Minister Shri Narendra Modi introduced a transformative vision for the holistic development of the Ganga River and its environs—The Arth Ganga. This innovative approach departed from the Namami Gange initiative; the Union Government's flagship project dedicated to cleansing the Ganga.

Emphasising a paradigm shift, PM Modi advocated for the Arth Ganga, centring its focus on fostering sustainable development along the Ganga by intertwining economic activities with the river ecosystem.

The National Mission for Clean Ganga (NMCG), in collaboration with various Ministries, Departments of both Central and state governments, and non-governmental organizations, has spearheaded numerous initiatives within the key verticals outlined by the Arth Ganga.



### Key Verticals identified for Interventions under Arth Ganga



### International Collaboration

- Meeting with German Delegates:** On 9th May 2024, a meeting was held under the chairmanship of the DG, NMCG with the Deputy Head of the Economic Division, German Embassy to discuss the current status of projects aimed at rejuvenating the Ganga River, supported through bilateral cooperation between India and Germany.
- Visit of Ethiopian Delegates:** On 29th July 2024, a meeting was held under the chairmanship of the Executive Director (Projects), NMCG with a 12-member delegation from Ethiopia's Ministry of Water and Energy. This visit was part of an educational exchange program aimed at gaining insights from India's successful Faecal Sludge and Septage Management (FSSM) models.
- Workshop on Strengthening Quality Infrastructure for Water Monitoring of the Ganges River II:** NMCG in association with Physikalisch - Technische Bundesanstalt (PTB) under Indo-German Technical Cooperation Programme organised a 6-day training programme on the subject Laboratory System and Internal Audit, Uncertainty of Measurement and Decision Rule, Risk Management Requirements & Implementation in Laboratories between 22nd July to 31st July 2024.
- Meeting with Dutch Water Envoy:** On 1st July 2024, a meeting was held under the chairmanship of the DG, NMCG, with Ms. Meike van Ginneken, Dutch Water Envoy, to discuss the ongoing bilateral cooperation with NMCG and the activities planned for the coming year.
- Inception Workshop for District Ganga Plans:** On 5th July, 2024, NMCG in association with GIZ organized an inception workshop for the District Ganga Plans in

Lucknow to discuss development plans for 41 District Ganga Committees (DGCs) in Uttarakhand and Uttar Pradesh. The workshop aimed to create comprehensive District Ganga Plans (DGPs) based on a River Basin Management approach, which have been prepared for four pilot districts.

- **First meeting of the Joint Steering Committee (JSC) on Smart Laboratory for Clean Rivers (SLCR):** On 20th August 2024, the first meeting of the Joint Steering Committee (JSC) on Smart Laboratory for Clean Rivers (SLCR) was held under the chairmanship of DG, NMCG. The Green Strategic Partnership between the Governments of India and Denmark has fostered significant collaboration leading to the establishment of the Smart Laboratory on Clean Rivers (SLCR) in Varanasi.
- **Strategic Workshop on Institutionalizing River Basin Planning and Management:** 13th and 14th September 2024, NMCG in association with Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) organised a workshop on the subject "Strategic Workshop on Institutionalizing River Basin Planning and Management".
- **Meeting with World Bank Team:** On 20th September, 2024, NMCG officials attended the meeting held under the chairmanship of Secretary, DoWR, RD & GR, Ministry

of Jal Shakti with World Bank representatives. The meeting focused on reviewing the findings of the recently concluded Seventh Implementation Support Mission for the 2nd National Ganga River Basin Project.

- **Meeting of the Joint Review Committee:** On 9th October 2024, the first meeting of the Joint Review Committee (JRC) under the India-Israel Memorandum of Understanding (MoU) was held under the chairmanship of DG, NMCG, to address priority areas such as reducing non-revenue water, urban water management through IoT and AI, wastewater treatment, and sewage sludge management.

### 7.3.6 NARMADA CONTROL AUTHORITY (NCA)

The Authority is headed by the Secretary (DoWR, RD & GR), MoJS as its Chairman, with Secretaries of the Union Ministries of Power, Environment, Forests and Climate Change, Social Justice & Empowerment and Tribal Welfare, Chief Secretaries of the four Party States, viz. Madhya Pradesh, Maharashtra, Gujarat & Rajasthan, one full time Executive Member and three full time independent Members appointed by the Central Government and four-part time members nominated by Party States.

The Review Committee for Narmada Control Authority (RCNCA) is headed by the Hon'ble Union Minister of Jal Shakti with Hon'ble Union Minister of Environment, Forest and Climate Change

and Hon'ble Chief Ministers of four Party States, viz. Madhya Pradesh, Rajasthan, Maharashtra & Gujarat as members and Secretary (WR, RD&GR), MoJS is the convener.

The Narmada Control Authority has its headquarter at Indore (MP) and regional offices at Indore, Bhopal & Vadodara, liaison unit in New Delhi and field offices at Mandla, Hoshangabad, Kevadia and Indore.

In pursuance of sub-clause 16(1) clause-XIV of the Narmada Water Disputes Tribunal Award, Sardar Sarovar Construction Advisory Committee (SSCAC) was constituted on 04.09.1980 for ensuring efficient, economical and early construction of Units-I and III of Sardar Sarovar Project. Further, in pursuance of sub-clause 16(1) of clause-XIV, the Sardar Construction Advisory Committee (SSCAC) was dissolved on 11th August 2020 and the post construction management of Units-I and III will be carried out by Gujarat under the supervision of Narmada Control Authority (NCA).

### **PROGRESS OF SARDAR SAROVAR PROJECT (SSP)**

- **SARDAR SAROVAR DAM:** As per decision of 89th meeting of NCA held on 16th June, 2017, the work of lowering of gate of SSP was completed by the GoG and reservoir filling schedule of the SSP reservoir up to FRL EL 138.68 m was finalized by the SSRRC in its 51st meeting on the basis of the draft schedule submitted by GoG as per Indian Standard Code 15272:2004 and other technical standards. Due to

lesser rainfall in 2017 leading to deficit in utilizable flow in order of 45%, the SSP reservoir could be filled up to EL 130.75 m only in the month of September, 2017 and 128.82m in 2018. The reservoir got filled up to FRL (138.68 m) during the monsoon 2019, 2020, 2022, 2023 and 2024 due to sufficient rainfall in the basin. An expenditure of Rs. 75601.45 crore has been incurred on Sardar Sarovar Project up to September, 2024.

- **NARMADA MAIN CANAL:** Work on Narmada Main Canal (NMC) from head regulator to Gujarat Rajasthan border (Ch. 0 to 458.318 km) has been completed. Work of 74.0 km. Narmada Main Canal in Rajasthan is also completed. In Gujarat, the work on all branch canals of NMC has been completed. 99.98% works of Branch Canal, 96.84% works of distributaries, 93.76% works of minors and 90.31% works of sub-minors are completed in Gujarat till November, 2024.

In Rajasthan, 100% work of main canal, distributary (flow) and distributary (lift), minors & sub minors (flow) are completed.

- **UTILIZATION OF WATER:** The water available from Sardar Sarovar Dam has been utilized for irrigation, domestic and industrial purposes under Phase-I & II of the Sardar Sarovar Project Command. During the year 2023-24, 12614.74 MCM (10.23 MAF) water has been released through HR of Narmada Main Canal for utilization in Gujarat

and Rajasthan, out of which 713.03 MCM (0.58 MAF) water was released for Rajasthan. The Narmada water has also been supplied to the Central Gujarat / North Gujarat and Saurashtra Region for domestic utilization. From the Narmada Canal system 10453 villages and 190 towns are envisaged for drinking water network in Gujarat. Total 15.07 Lakh ha area was irrigated in addition to Industrial utilization of 101.80 MCM water by Gujarat during 2023- 24.

- **RESETTLEMENT AND REHABILITATION ASPECTS OF SSP:** The 37th Task Force Meeting of NCA on rehabilitation and resettlement issues of SSP was conducted on 26th November, 2020. There are 83 operational R&R sites in Madhya Pradesh, 14 in Maharashtra and 223 in Gujarat. A brief overview of the Project Affected Families (PAFs) and affected villages till March, 2024, based on the information furnished by the Party States are given in the following table:

**Affected Villages and Families (Till March, 2024)**

States	Villages affected			Total PAFs resettled so far in			Total No. of PAFs rehabilitated
	Fully	Partially	Total	Gujarat	Maharashtra	Madhya Pradesh	
Madhya Pradesh	1	177	178	5542	0	18063	23605
Maharashtra	-	33	33	753	3436	0	4189
Gujarat	3	16	19	4758	0	0	4758
<b>Total</b>	<b>4*</b>	<b>226</b>	<b>230</b>	<b>11053</b>	<b>3436</b>	<b>18063</b>	<b>32552**</b>

Source: Progress Report received from the party States.

\* Complete agriculture land of this village has come under submergence of Sardar Sarovar Reservoir, but no family was residing in this village.

\*\* This number may change after verification of cases pending in GRA/ Hon'ble Courts for eligibility.

### 7.3.7 BRAHMAPUTRA BOARD (BB)

The Brahmaputra Board was constituted by an Act of Parliament and received the assent of the President on 1st September, 1980 for planning and integrated implementation of measures for the control of floods and bank erosion in the Brahmaputra valley and for matters connected therewith.

The Board consists of 21 members under the Chairman, Brahmaputra Board

(4 full time members and 17 part time members). The jurisdiction of Brahmaputra Board covers all the North Eastern States including Sikkim and North Bengal. The organizational set up of Brahmaputra Board has been modified after restructuring order issued by GoI on 10th January, 2019 which provides for establishment of regional offices headed by Dy. Chief Engineer/Superintending Engineer in all the State capitals of North Eastern States. All the 9 (nine) regional

offices set up as a part of restructuring have started functioning in close coordination with respective State Governments.

A High Powered Review Board was constituted with the Union Minister of Jal Shakti as the Chairman, Chief Ministers of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura and Union Minister/Ministers of State-Finance, Surface Transport, Power, Agriculture, Ministers of State- Jal Shakti and Secretary to the Ministry of Jal Shakti, Department of Water Resources, RD&GR Govt. of India, Chairman of Central Water Commission as members and Chairman of Brahmaputra Board as the member-secretary. Member (RM), CWC is a permanent invitee.

Ministry of Jal Shakti approved the restructuring proposal of Brahmaputra Board on 10.01.2019 creating new 9 (nine) regional offices of Brahmaputra Board with headquarters in each State capital of North Eastern Region and at Siliguri in West Bengal.

The main objectives of Brahmaputra Board are management and control of flood and bank erosion and improvement of drainage giving due importance to the development and utilization of water resources of the Brahmaputra valley for irrigation, hydropower, navigation and other beneficial purposes.

#### **THE NORTH EASTERN HYDRAULIC & ALLIED RESEARCH INSTITUTE (NEHARI):**

North Eastern Hydraulic & Allied research Institute (NEHARI) was

established in the year 1996 under Brahmaputra Board, as a follow up of 'Assam Accord' signed on 15th August, 1985 by Hon'ble Prime Minister of India. The institute was set up as a pioneer laboratory of North Eastern Region for laboratory testing of soil, rock, concrete and construction materials for development of water resources and other projects along with hydraulic laboratory adequate facility for simulating and understanding river behaviour 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. The mandate was subsequently expanded in year 2021-22 to include capacity building of officers with a vision to develop NEHARI as an institute of excellence in capacity building.

#### **Facilities:**

Following facilities are available at NEHARI to carry forward the mandate of the institute:

- Physical and Mathematical Model studies for erosion problem & river training
- Soil testing
- Rock testing
- Concrete testing
- Construction material testing
- Sediment/Silt analysis

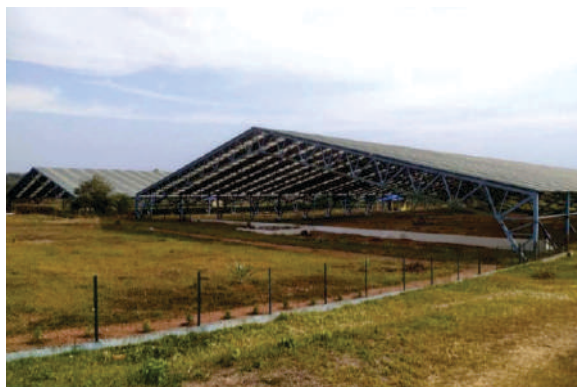


### Recent Activities:

The infrastructure of NEHARI was renovated in 2021. An MoU signed with IIT Guwahati for undertaking studies in various aspects of river basin management at the institute. MoUs were also signed with CWPRS Pune and CSMRS New Delhi for capacity building and mutual cooperation.

Capacity building for the officers of NE states was started by NEHARI in association with NIH, NERIWALM, NESAC, CWPRS Pune and CSMRS New Delhi from the year 2021-22. So far, about over about 400 officers from NE States and West Bengal have been trained in the Institute. Training programmes in springshed management, flood management, watershed management, GIS / remote sensing, source stabilization under Jal Jeevan Mission, preparation of DPRs, procurement management and hydraulic modelling, etc. have been conducted during 2024-25.

In addition, training programmes on Soil investigation for river engineering works, Dam safety and Project management are also planned, NEHARI has also been tasked to organize regular knowledge sessions with all stakeholders.



Hydraulic Laboratory, NEHARI

The following model studies have been carried out by NEHARI for North East Frontier railway as consultancy assignments:

- a. River Survey and Hydraulic Model Studies for construction of Rail Bridge near Tezpur. Draft report has been submitted to NF Railway.
- b. Hydraulic Model Study for 2nd Rail cum Road Bridge near over Brahmaputra adjacent to existing Saraighat Bridge. Final report has been submitted to NF Railway. An additional study is in progress.



A group photographs of Chairman, Brahmaputra Board with the trainees at NEHARI

### REVITALIZATION PLAN:

NEHARI has no sanctioned manpower in the scientific or teaching cadre to carry out the mandated works in the field of research, testing and capacity building. Engineering officers provided by Brahmaputra Board are carrying out these activities in association with other institutes / departments in the greater interest of the north eastern region. In order to achieve the desired goals, in the fields of R&D, hydraulic modelling, laboratory testing of materials and capacity building, WAPCOS Ltd., a PSU under the Ministry of Jal Shakti has been

entrusted for assessment of organizational setup, manpower requirement, laboratory facilities & equipments, training needs, development of laboratory facilities, and development of infrastructure for the transformation and revitalization of the institute.

### **ACHIEVEMENTS OF BRAHMAPUTRA BOARD:**

- **Master Plans:**

The Board had taken up preparation of masterplans of the main-stem of the Brahmaputra and Barak along with 68 major tributaries of Brahmaputra including Majuli Island, river Dhaleswari and rivers of Meghalaya, Mizoram, Manipur and Tripura in three parts.

Preparation of Manipur River masterplan and updation of Hoara river masterplans is ongoing. Brahmaputra Board has also initiated preparation of 17 river basin masterplans of viz. - (1) Dikhow, (2) Jhanji, (3) Dikrong, (4) Kolodyne, (5) Tuichang, (6) Bugi, (7) Dareng, (8) Kynshi, (9) Umngi, (10) Umiew, (11) Umsohryngkew, (12) Umngot, (13) Myntdu, (14) Lubha, (15) Simsang, (16) Sankosh-Raidak and (1) Teesta during 2024-25.

- **Survey & Investigation and Preparation of Detailed Project Reports of Multipurpose Projects:** Brahmaputra Board took up survey & investigation of 14 multipurpose projects in Brahmaputra and Barak basin and in the south flowing rivers of Meghalaya. Status of these projects is summarised at **Annexure-IX**.

- **Scientific dissemination and improvement of water management practices of local tribes and indigenous people of NE region:** Under scientific dissemination and improvement of water management practices of local tribes and indigenous people of NE region Board has completed the pilot project on Water Management practices of Apatani inhabited Ziro Valley and Pakke Valley in Arunachal Pradesh in association with NERIWALM; Board has also taken up pilot project of improvement of dong water management practices of Bodo tribes of Baksa district in Assam which is in progress and targeted to be completed by 2024-25.

Pilot projects on springshed management in (i) Kombo village near Alo town of West Siang district in Arunachal Pradesh, (ii) Dakla and Daldaw in Mizoram, and (iii) Ungma Village, Mokokchang District and Pangti Village, Wokha District of Nagaland are continued during FY 2024-25. Board has also taken up new pilot projects on springshed management in Soreng, Namchi and Mangan Districts of Sikkim and in Zunhebphoto district, Nagaland during 2024-25. In addition, Board is also taking up pilot projects for (i) Development of three-tier farming system for augmentation of water resources in Choumoukedima & Peren Districts of Nagaland and (ii) Integrated Water Resource Rejuvenation & Development of Shilliang Um area in East Khasi District of Meghalaya.



Spring shed management works in Pangti Village, Wokha District, Nagaland



A photograph of the bio-engineering pilot project executed by Brahmaputra Board at Majuli

During 2024-25, Board has also taken up (i) Preparation of DPR for springshed management projects in Lower, middle and upper reach of Tlawng River in Mizoram, (ii) Preparation of DPR for Pond Development at Hiyangthang, Imphal West District, Manipur, and (iii) Preparation of DPR for Sub Catchment Basin of Beel Silsako in the Umling Block of Ri-Bhoi District, Meghalaya.

- **Bio-engineering measures for flood and erosion management:**

A pilot project of bio-engineering measures for river bank erosion of Brahmaputra at right bank downstream of Kordoiguri of river Brahmaputra at Majuli island has been taken up in 2022-23 and completed in 2024-25. The maintenance of the project is underway.

Board has also taken up a pilot project on Mitigation of flood and River Bank erosion in Pachi river (a tributary of Dikhu river) through integrated catchment area treatment with bio-engineering approach in Longleng district of Nagaland during 2024-25.

- **Preparation of Detailed Project Report to check flash flood and erosion in BTC area:**

For preparation of Detailed Project Report to check flash flood and erosion in BTC area by Pagla/ Baitamari, Aie, Beki, Pagladiya, Sankosh, Gangia and Saralbhanga rivers, work has been allotted to WAPCOS. Draft DPRs completed and is under consultation with State Water Resources Department to avoid duplicacy of the works proposed in the DPRS.

- **Survey Investigation & Data collection and DPR preparation:**

- » **Simsang Dam Project:** The project is located on the Simsang River with the dam site at Rongkhandi near Nangwalbibra Township in East Garo Hills District, Meghalaya. The tentative installed capacity of the project is estimated as 65 MW. The estimated cost for S&I and preparation of DPR is Rs. 888.04 lakh. The work was awarded to WAPCOS Ltd. and started in 2019. The Draft DPR



submitted by WAPCOS is under examination in Central Electricity Authority. The work is targeted to be completed by 2024-25.

- » **Jiadhal Dam Project:** Jiadhal Dam project is located about 5 Km upstream of Jiadhal-mukh in Assam-Arunachal Border area. The installed capacity of the project is estimated at 50 MW. The estimated cost for S&I and preparation of DPR is Rs. 870.00 lakh. The work was awarded to WAPCOS Ltd. and started in 2019. The Draft DPR submitted by WAPCOS is under examination in Brahmaputra Board. The work is targeted to be completed by 2024-25.

- » **Preparation of DPR to check flash flood and erosion in BTC area by Pagla/Baitamari, Aie, Beki, Pagladiya, Sankosh, Gangia and Saralbhangra rivers:**

The work for has been allotted to WAPCOS Ltd. during 2019. All 7 draft DPRs have been submitted by WAPCOS. Water Resources Department, BTC has raised a few observations which are currently being attended by WAPCOS Ltd.

Brahmaputra Board has also completed the DPR for protection of River Bank from Patakata village to Baitbari village in Phulbari Area from erosion of river Brahmaputra/Jinjiram, Meghalaya and submitted the same to CWC for clearance during 2024-25. During 2024-

25, Board has also completed preparation of Draft DPRs for flood management works in Manu and Khowai rivers of Tripura. In addition, Board has also taken up preparation of revised DPR for Amjur DDS in 2024-25 which is targeted for completion during 2024-25.

- **Anti-Erosion and Flood Management Schemes**

- » **Protection of Majuli Island from Flood and Erosion:**

Majuli is the largest inhabited fresh water 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 island has constantly been subjected to erosion by the mighty Brahmaputra. Responsibility for under taking 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 area of Majuli island was 502.21 sq km in the year 2004. Since then, with regular implementation of anti-erosion/bank protection measures, the total area of Majuli island had increased to 524.29 sq km. by the year 2016. Works under immediate measures, emergent measures, Phase-I, Phase-II & III have been completed. Subsequently, protection of Majuli island from flood and erosion of river

Brahmaputra (Phase-IV) for Rs. 233.57 crore was formulated and approved by the then Ministry Water Resources and Ministry of DoNER, which allocated Rs. 207 crore for the same. Works under Phase-IV have been completed during 2024.

**Brahmaputra Board has now formulated** - "Protection of Majuli Island from flood and erosion Phase-V" for Rs. 56.34 crore. Phase-V has also been approved and is under the process of implementation.



Performance of Bank Revetment work at Kordoiguri area, In Majuli Island

- » **Restoration of Dibang and Lohit Rivers at Dhola -Hatighuli:** The scheme "Avulsion of Brahmaputra at Dhola-Hatighuli (Measures for diversion of River Dibang and Lohit to their original courses) with ancillary anti-erosion measures" was approved by Ministry of Water Resources, Government of India in the Technical Advisory Committee (TAC) meeting held in May, 2002

and Brahmaputra Board was entrusted with the responsibility for execution of the scheme. Expenditure of Rs 93.93 crore has so far been incurred by Brahmaputra Board on execution of works envisaged under Phase-I, Phase-II, Phase-III, Phase-IV and Phase-V.

For continuation of benefits accrued from the schemes implemented in four phases of works of scheme Avulsion of Brahmaputra at Dholla Hatghuli, it is proposed to convert the existing tie-bund into a full-fledged embankment at Bahbari. Work estimated at Rs.24.95 crore is under implementation and 91% work has been completed so far. On construction of retirement bund at Hatighuli area on left bank of Lohit river, 11 villages under Doomdooma Revenue Circle in an area of about 1500 ha got protection from floods.

- » **Protection work at Mirem Village, Miglung Village & Remi Village" in East Siang District of Arunachal Pradesh:** Anti-erosion scheme with an estimated cost of Rs. 23.33 crore was taken up for execution during March, 2023 and 40% of work completed so far.
- » **Protection Work at Oyan and Sile Village" in East Siang District, Arunachal Pradesh:** Anti-erosion scheme with an estimated cost of for Rs. Rs. 20.79 crore was taken up for execution during March, 2023 and 42% of work has been completed so far.





Bank revetment work Sile village, East Siang District, Arunachal Pradesh

- » **Protection of Neamatighat area from flood and erosion of river Brahmaputra:** Neamatighat is an important river ghat in Jorhat District of Assam which connects Jorhat town with Majuli. The area has been threatened by the erosion of the mighty river Brahmaputra. Brahmaputra Board has taken up the protection of the Neamatighat area from flood and erosion of river Brahmaputra during 2023 formulating a scheme amounting to Rs. 22.93 crore. The progress so far is about 42% and work is targeted for completion within this financial year.

Implementation of the scheme will protect an area of 293.8 Ha and a population of about 10,000 in the Neamatighat area of Jorhat District.

- » **Protection of Lipu, Liru Village, Likabali township including BRO HQ Likabali Army Division in Arunachal Pradesh:** Brahmaputra Board has formulated the scheme for

Rs. 16.00 crore to protect the Lipu, Liru village and Likabali township and other important areas from erosion of river Siji River. The work has been awarded during June, 2024 and is targeted for completion by 2026.

- » **Anti-Erosion work on both bank of Dollung river to protect agriculture land and village of Dollungmukh area, Kamle district, Arunachal Pradesh:** Brahmaputra Board has formulated the scheme for Rs. 18.25 crore to protect the Lipu, Liru village and Likabali township and other important areas from erosion of river Siji river. Allocation of the work is in process.
- » **Anti Erosion Measures for Protection of Mailam-Jamadwar, Mawshylliah, Dangar-Lalpani villages etc. from erosion by Umngi River at the Borders between South West Khasi Hills & East Khasi Hills District of Meghalaya and bordering Bangladesh in Meghalaya (Balat Phase-III):** Brahmaputra Board has prepared the Detailed Project Report for Protection of Mailam-Jamadwar, Mawshylliah, Dangar-Lalpani villages etc. from erosion by Umngi River at the Borders between South West Khasi Hills & East Khasi Hills District of Meghalaya and bordering Bangladesh in

Meghalaya (Balat Phase-III), an extension of the work already undertaken under Phase-I & II for an amount of Rs. 21.93 crore.

Work Order for the project has been issued during November, 2024 and a period of 1 year 8 months have been considered for completion of the project. An area of 300 ha will be protected to benefit a population of 3250 upon implementation of the project.

- **Drainage Development Schemes (DDS)**

- » **Barbhag DDS:** Brahmaputra Board has formulated the DPR for Barbhag DDS project for Rs. 14.80 crore. Raising & strengthening of embankment and Re-sectioning of the channel has been completed. 24.94% of sluice component has been completed.

Due to unprecedented underground water discharge during construction of sluice, the work is held up since 2017. IIT Guwahati was engaged as a consultant for suggesting appropriate technology for installation of sheet piles and execution of the work. As per suggestion of IIT Guwahati, the DPR is to be revised. Currently, discussions are in place for handing over the project to WRD, Assam for further construction and development.

- » **Amjur DDS:** Brahmaputra Board has formulated the DPR for Amjur DDS project for Rs. 14.18 crore. Raising & strengthening of embankment has been completed.

The original DPR of Amjur DDS was cleared for Rs. 14.18 crore pending the approval of design of sluice by CWC. The revised DPR has been cleared by appraisal Directorate of CWC for Rs. 48.18 crore with the approved design of sluice with the condition of field report by CWC. As per field visit report, it has been proposed to carry out field survey works for collection of more data. Accordingly, now fresh Work Order has now been issued for preparation of revised DPR for Amjur DDS.

- » **Implementation of Development of Dimapur Airport Drainage Scheme Phase IV, Nagaland:** The flooding of Dimapur Airport during monsoons has been a long-standing problem. The cause as is well known is the huge volume of runoff from the Sugar Mill Nallah which passes through the operational area of the airport. Also, the most critical issue is that of de-silting of the external storm water drain which measures 8 Km (approx) toward Aoyimti Village side which requires periodical cleaning before & after the monsoons to prevent water logging in the airport causing disruption of flight operations.

Government of Nagaland requested Department of Water Resources, RD & GR, Ministry of Jal Shakti to include the project proposal for necessary financial sanctions under various schemes of DoWR, RD & GR, MoJS. Subsequently, Department of Water Resources, RD & GR, Ministry of Jal Shakti has requested Brahmaputra Board to

arrange to explore the possibility of taking up this project under River Basin Management Scheme of Brahmaputra Board in coordination with the State Government.

In view of above, Brahmaputra Board is taking up implementation of Development of Dimapur Airport Drainage Scheme Phase IV, Nagaland at an estimated cost of Rs. 24.87 crore during 2024-25.

### **7.3.8 BETWA RIVER BOARD (BRB)**

A decision to harness the available water resources of Betwa river was taken in a meeting held on 22nd July, 1972 between Chief Ministers of Uttar Pradesh and Madhya Pradesh. Further Uttar Pradesh and Madhya Pradesh in a meeting held on 9th December 1973 agreed for setting up of a tripartite Control Board for the speedy, smooth and efficient execution of the various inter-State projects of both the States. BRB was constituted in 1976 by an Act of parliament to execute the Rajghat dam project and power house. The project authority started construction of the project under the overall guidance of BRB after promulgation of BRB Act 1976. The benefits and costs of the above projects are being shared equally by both the State Governments.

The Union Minister (Jal Shakti) is the Chairman of the Board. Chief Ministers and Ministers- in-charge of Finance, Irrigation and Power of the two States are its members. An Executive Committee of the Board headed by Chairman, CWC manages the activities of the Board.

#### **Rajghat Dam Project**

The Rajghat dam with appurtenant

structures has been constructed across river Betwa to provide irrigation facilities to 1.38 lakh ha in Uttar Pradesh and 1.21 lakh ha in Madhya Pradesh with power generation of 45 MW through Rajghat Hydro Electric Project at the toe of dam on left flank. The costs as well as benefits of the project are to be shared equally by both the States. Construction works of dam and power house have been completed.

- **Land Acquisition:**

The dam submerges 38 villages in U.P. and 31 villages in M.P. State. Compensation in M.P. area is completed. In U.P., the District Administration, Lalitpur had paid the land compensation of 25 villages and Betwa River Board have paid the compensation of 13 villages by mutual negotiation except the property compensation of village Kalapahar between FRL and MWL and the case has already been submitted for its valuation to the concerned Department of Uttar Pradesh.

- **Planning and Present status of Rajghat Power House works:**

The estimated cost of Rajghat Hydro Electric Project at 1997 price level was Rs. 131.26 crore which included (Civil works Rs. 58.41 Crore and E&M works Rs. 72.85 Crore). The revised cost of the civil works of power house is Rs. 66.89 crore at December, 1999 price level. M.P.S.E.B. has contributed Rs 59.51 crore and U.P.S.E.B. has contributed Rs. 5.24 crore. The total expenditure incurred by board on civil works of Rajghat Power House till March, 2024 is Rs 64.75 crore.

The three units of power house have been tested and commissioned during

1999-2000. From 1999-2000 to 2023-2024 (24 years) electricity generation from Rajghat Power House is 21824.18 lakh units. The electricity generation during 2024-25 (upto 30.11.2024) is 855.85 lakh units. The completion cost of Rajghat Dam is Rs 300.60 crore at 2000 price level. The expenditure on dam is being booked in O&M head since October, 2005 as per decision taken in the meeting held on 02.02.2006 under the chairmanship of Secretary, MoWR. The State of U.P. has paid Rs. 405.98 crore and M.P. has paid Rs. 309.785 crore against their due share up to December, 2024.

### 7.3.9 TUNGABHADRA BOARD

Tungabhadra Board was constituted by the President of India in exercise of the powers vested under sub section (4), section 66 of Andhra State Act 1953 for completion of the Tungabhadra project and for its operation and maintenance. The Board consists of a

Chairman, appointed by the Government of India, and four members, one each representing the States of Andhra Pradesh, Telangana, Karnataka and Government of India.

The Government of Andhra Pradesh and the Government of Karnataka provide funds in agreed proportions and also depute staff to man the various specified posts as per the agreed ratio.

### Physical and Financial achievements and new initiatives

- Irrigation Wing:**

The Tungabhadra Reservoir has filled the full reservoir level of 497.748 m (1633.00ft) in this year. The inflow in to the reservoir from June 2024 to 31st December 2024 is 13679.811 Million Cubic Meters (483.098 TMC). The utilization by States of Karnataka, Andhra Pradesh & Telangana till 31st December 2024 during the water year 2024-25 is as per the table below;

Sl. No.	Name of the State	Allocation as per KWDT Award (TMC)	Prorata Entitlement on Abstraction (TMC)	Actual Utilization in TMC (As on 31.12.2024)	Actual Utilization in M Cum (As on 31.12.2024)
1.	Karnataka	138.99	125.878	83.165	2354.970
2.	Andhra Pradesh	66.50	60.226	40.038	1133.749
3.	Telangana	6.51	5.896	0.585	16.537
	<b>Total</b>	<b>212.000</b>	<b>192.000</b>	<b>123.788</b>	<b>3505.256</b>

TMC: Thousand Million Cubic Feet; 1 Million Cubic Meters is equivalent to 35,314,666.7 Cubic Feet

The water surplus over spill way & water drawn for extra power generation by the power houses on both sides is 7727.978 Million Cubic Meters (272.911 TMC) during the water year 2024-25.

- Due to completion of modernization of RBHLC from km

0.00 to 105.00 (except Canal Cross drainage works (UT, Aqueduct & Super passage), The Modernization works for the leftover reaches from Km 0 to 40 along with CM & CD repair works (UT & Aqueducts) are proposed for the year 2023-24 and



the works are in progress. Due to modernization the velocity of water flow in the canal has improved substantially and the canal is now able to draw the designed discharge of 4,000 cusecs (against earlier discharge of 3,200 cusecs) at its head and has delivered a discharge of 2,350 cusecs already and is capable of carrying the design discharge of 2,575 cusecs at Andhra Pradesh border (against earlier discharge of 1,500 cusecs) subject to readiness of canal from Andhra Pradesh side.

- Completion of modernization of power canal and modernization of RBLLC (old unlined canal) upto 115 km (out of 250 km) and partial modernization of RBLLC from km 115 to km 205 have resulted in realization of water around 1,100 cusecs at km 133 (against earlier realization of 750 cusecs) and around 600 cusecs (average) at km 250 i.e., AP border against earlier realization of 400 cusecs (average) and for some period the discharge even has crossed 700 cusecs. Further, modernization works for the balance reach from km 205.450 to km 250.580 of RBLLC will be taken up during 2024-25 closure period.
- **Transparency in Water Accounting and Measurement:** Canal flow measurement with modern Telemetry system has been implemented in all the canals of TB Project which has helped in propagating awareness among the

farmer community about the over usage and misuse of canal water.

Installation of Telemetry system to all the canals of TB Project has been commissioned and Hourly live flow data of TB Project canals is being displayed on the website [tbbliveflow.com](http://tbbliveflow.com) and daily status of TB Reservoir & other details are being displayed on the website [www.tbboard.gov.in](http://www.tbboard.gov.in) for the information of the Member States, general public and farmer community.

- **Dam Rehabilitation and Improvement Project works (i.e., under DRIP-II) for Tungabhadra Dam – Inspection by DSRP Team & World Bank Team:**

Tungabhadra dam was included in the DRIP-II. As there were some differences in the procedure for execution of work & accountability under the supervision of TB Board, the Board in its 218th meeting held on 26.05.2022 decided to take up the right side dam safety works of Tungabhadra dam with its own funds on the similar lines of modernization works taken up for TB Board canals viz., RB HLC, Power Canal & RB LLC and the works are in progress.

- **Erection of Wave deflectors to avoid the overtopping of water over the Gates as per the recommendations of Dam Safety Review Panel (DSRP):**

As per the direction of the Board, erection of wave deflectors to height of "one foot" is taken up to avoid the overtopping of water over the Gates as per the



recommendations of Dam Safety Review Panel (DSRP).

- **Restoration of Damaged Hagari Aqueduct at the peak season:**

Hagari Aqueduct was constructed at km 121/000 of RBLLC across the Hagari (Vedavathi) river with a span of 700m in the year 1953. The time-tested structure, which plays a vital role in supply of water to the ayacut of about 3 lakhs acres was undergone for distortion by heavy flood of 1,00,000 cusecs in the Hagari river. Immediately temporary supports were given to the Aqueduct structure and meanwhile toiling day and night, engineers and officials of the Board, based on the suggestions of the experts, carried out permanent restoration work and restored the supply of water to the ayacut in time and saved the invaluable standing crops. The value of the standing crops may be around few hundred crores in rupees.

- **Temporarily restoration of gate no.19.:**

Gate No.19 of size 60X20 feet of TB Dam was washed out on 10.08.2024 at 10.50 PM. Immediately informed the higher authorities, and after receiving necessary designs and drawings from gates expert Sri. Kannaiah Naidu, the stop log elements were fabricated and completed with the help of local agencies and JSW. Inserted the stop log elements under water flowing condition with a head of 10 foot and lowered all the stop log elements on

17.08.2024 within record time of 7 days. Total 30 T.M.C of water was saved by temporarily restoration of gate no.19.

- **Hydro Electric Scheme:**

Two power houses are being maintained by the Tungabhadra Board with a total installed capacity of 72 MW and a target of 160 million units of power generation is envisaged during the year 2024-25. Against this, the power generated till end of December 2024 is 132.00 million units. The power generated is shared between the States of Karnataka and Andhra Pradesh in the ratio of 20:80.

A mini hydel plant at the head of Right Bank High Level Canal of the Tungabhadra Project under Build, Operate, Own and Transfer (BOOT) system through an independent power producer has been commissioned on 27.10.2004. The mini hydel plant comprising 3 units of 2.75 MW each generated 25.4582 million units upto December 2024. The power generated is purchased by the transmission corporations of Karnataka and Andhra Pradesh in the agreed ratio of 20:80.

One more new mini hydel plant was implemented at the head of Rayabasavanna canal of Tungabhadra Project under BOOT system through an independent power producer. The project construction was started in September 2012 and commissioned in record time of 11 months, i.e., on 31.08.2013. The total project capital cost is Rs.11.50 crore. The mini hydel plant comprising single unit of

1.4 MW has generated 5.40116 million units up to December 2024. The power generated is purchased by GESCOM, Gulbarga (Karnataka) at the rate of Rs. 2.80 per unit.

Capital Overhauling works for the Unit-3 and 4 were completed successfully after 60 years of their service and Unit-1 work was started during December-2023 and the same is under progress.

- **Fisheries Wing:**

Fisheries Wing consists of four units viz., Fish Farm Unit (FFU), Reservoir Unit (RU), Ice-cum-Cold Storage Plant & Aquarium Unit. Every year revenue is being generated from the Fisheries Wing on account of Fish Farm, Ice Plant and leasing of fishing rights in the TB Reservoir. From June 2022 onwards Fisheries Wing has been leased on PPP Model to the private Agencies for a period of 5 years. The gross earning from Fisheries Wing upto March, 2024 is Rs.266.63 Lakhs.

### **7.3.10 POLAVARAM PROJECT AUTHORITY (PPA)**

Polavaram Irrigation Project (PIP) is a multi-purpose irrigation project which is contemplated across the river Godavari near Ramayyapeta village of Polavaram mandal in Eluru District (erstwhile West Godavari District) of Andhra Pradesh, about 42 km upstream of Sir Arthur Cotton Barrage, where river emerges out of last range of the Eastern Ghats and enters the plains in West Godavari District of Andhra Pradesh State. The benefits of the project include irrigation to 2.91 Lakh Ha under LMC and RMC with Annual irrigation of

4.36 Lakh Ha. The project also envisages generation of 960 MW of hydropower, 23.44 TMC of Drinking and Industrial water supply to Visakhapatnam, Domestic water supply to 28.50 lakh population in 611 villages, sharing of 5 TMC and 1.5 TMC of water from reservoir rim with Odisha and Chhattisgarh respectively, stabilization in Godavari delta including 8 TMC for Samarlakota Branch Canal and diversion of 80 TMC of water to Krishna River basin as per GWDT Award.

The project has been declared as a national project as per section 90 of Andhra Pradesh Reorganisation Act, 2014. Central Government is funding 100% of the remaining cost of the irrigation component only of the project for the period starting from 01.04.2014. Government of Andhra Pradesh is executing the irrigation component of the project on behalf of Government of India. The power component of the project is being executed by APGENCO.

In pursuance of the Andhra Pradesh Reorganization Act, 2014, the Central Government constituted a Governing Body for Polavaram Project Authority vide the Ministry of Water Resources Notification dated 28th May, 2014. The Authority is playing an important role in executing the project in guiding WRD in all important aspects of the project execution such as designs, monitoring of the progress, quality control, land acquisition & rehabilitation (LA and R&R) of the project affected people etc. M/s WAPCOS Limited has been engaged for project monitoring & coordination consultancy services and CSMRS, New Delhi as Quality Control and Quality Assurance Consultant.

**Estimated Cost of the Project:**

The 2nd Revised Cost Estimate (2nd RCE) at 2017-18 PL was examined in CWC and was accepted by Advisory Committee of DoWR, RD & GR in its 141st meeting held on 11.02.2019 for an amount of Rs. 55,548.87 crores.

Subsequent to the acceptance of Advisory Committee of DoWR, RD&GR, a Revised Cost Committee (RCC) was formed under the chairmanship of JS & FA of DoWR, RD & GR on 02.04.2019 to examine the cost escalation of Polavaram Irrigation Project. The committee, in its report submitted to DOWR, RD & GR on 17.03.2020, recommended the cost of the project as Rs 29,027.95 crores at 2013-14 PL and Rs. 47,725.74 crores at 2017-18 PL.

Further, As per MoF OM No-10(04)PFC-1/2023 dated 05.06.2023, department of expenditure, Ministry of Finance conveyed that it has no objection to additional funding for completing the balance work of Polavaram Irrigation Project for filling of water up to 41.15 meters amounting to Rs.10,911.15 crore and Rs.2,000 crore for cost of repairing damages caused to Polavaram Irrigation Project by flood being considered by the Gol, subject to the approval of the Cabinet, by modifying the earlier Cabinet decision.

Government of Andhra Pradesh furnished Revised Cost Estimate for Phase-I of the project (with water storage up to +41.15 m - MDDL) for an amount of Rs. 36,449.83 Crores. The Revised Cost Committee (RCC) constituted by MoJS vide its report February 2024 recommended the cost of the Phase I of the Project as Rs.

30,436.95 Crores at March 2023 Price level. The Central Cabinet approved the revised cost for completion of the Polvaram irrigation Project with water storage up to EL + 41.15 M at a cost of 30,436.95 Crores with balance central grant for the project limited to Rs 12,157.53 Crores in the meeting held on 28.08.2024.

**Status of Land Acquisition and Resettlement & Rehabilitation:** 373 habitations of 222 revenue villages in 8 mandals will be submerged in ASR district (erstwhile East Godavari) and Eluru District (erstwhile West Godavari) of Andhra Pradesh. Out of these, 165 revenue villages in 5 mandals (viz. Chinturu, VRPuram, Yetapaka, Kunavaram & Devipatnam) are in ASR District and remaining 57 revenue villages in 3 mandals (Polavaram, Kukunoor & Velairpadu) are in Eluru District.

As per 141st meeting of Advisory Committee (2nd RCE), excluding Government and forest land, about 1,55,464.88 acres of land are to be acquired for the Polavaram Irrigation Project, of which the RCC in its report of March 2020 has recommended as 1,27,262.79 acres. Out of 1,27,262.79 acres, an extent of 1,13,124.17 acres has been acquired till 15th March 24 and a balance of 14,138.62 acres of land is to be acquired.

RCC constituted for Phase-I of the Project vide its report of February, 2024 has assessed the land required for Phase-I of the project as 65,205.26 acres excluding Government and forest land. Out of which 50,108.44 acres of land has been acquired till 30th November, 2024.

DETAILS OF REHABILITATION & RESETTLEMENT				
Sl. No.	Item	upto EL+41.15m	above EL+41.15m	Total
		(Phase -1)	(Phase -2)	
1	Mandal Affected	8	7	8
2	Revenue Villages Affected	90	132	222
3	Habitations Affected	172	201	373
4	Habitations Shifted	38	0	38
5	Balance Habitations	134	201	335
6	Total R&R Colonies	121	92	213
7	R&R Colonies Completed	26	0	26
8	Balance R&R Colonies	95	92	187
9	Total PDFs	38,060	67,946	1,06,006
10	No. of PDFs Shifted	12,797	-	12,797
11	<b>Balance PDFs to be shifted</b>	<b>25,263</b>	<b>67,946</b>	<b>93,209</b>

R&R : Resettlement and Rehabilitation; PDF: project-displaced families; EL: Elevation of Intersection

**Physical and Financial Achievements:** The project is in an advanced stage of construction. The physical and financial progress of Polavaram Irrigation Project as furnished by Water Resources Department, Government of Andhra Pradesh up to November, 2024 is as follows:

Sl.No.	Description	% of Physical progress (upto Nov, 2024)
1	Earthwork	88.22
2	Concrete	81.65
3	Structures	69.83
Sl.No	Description	% of financial progress (upto Nov, 2024)
1	Head works	74.27
2	Right main canal	92.75
3	Left main canal	72.62
4	Total Project(Works)	76.79
5	LA and R&R	22.58
<b>Overall Project Works + LA and R&amp;R)</b>		<b>53.46</b>

**Expenditure on the project:**

Expenditure of Rs. 22,813.47 Crore has been incurred on the project since inception till February 2024. An expenditure of Rs. 4,730.71 crores were incurred before declaration of National Project, i.e., before 01.04.2014.

**Funds released / reimbursement by Central Government:**

Central Assistance of Rs. 562.47 crore was provided to the State under AIBP till March, 2014. Central Government will provide 100% of the remaining cost of the irrigation component only of the project for the period starting from 01.04.2014 to the extent of the cost of the irrigation component on that date.

An eligible amount of Rs 15,605.96 Cr has been released by Govt. of India so far for execution of project after declaration of project as national project including the expenditure towards establishment charges of PPA.

In accordance to the latest cabinet approval, MoJS vide letter dated 9.10.2024 released an amount of Rs 2348 Cr as advance payment to GoAP in addition to the above reimbursement.

**7.3.11 APEX COUNCIL AND KRISHNA & GODAVARI RIVER MANAGEMENT BOARDS (KRMB & GRMB)****APEX COUNCIL**

In exercise of the powers conferred by sub-section (1) of section 84 of the Andhra Pradesh Reorganisation Act, 2014 (Act 6 of 2014), the Central Government constituted the Apex Council for supervision of the functioning of the

Godavari River Management Board and Krishna River Management Board vide Gazette Notification dated 29th May, 2014, consisting of:

- Minister of Water Resources, River Development and Ganga Rejuvenation, (now, renamed as Minister of Jal Shakti), Government of India – Chairman;
- Chief Minister of the State of Andhra Pradesh – Member; and
- Chief Minister of the State of Telangana – Member.

Two meetings of the Apex Council have been held so far. The 1st meeting was held on 21.09.2016. The 2nd meeting was held on 06.10.2020. Following decisions were taken in the 2nd meeting.

- Jurisdiction of GRMB: It was decided to notify the jurisdiction of GRMB.
- Both the States agreed for setting up of Godavari Tribunal for adjudicating on the sharing of the waters of Godavari between AP and Telangana. Hon'ble Union Minister requested both the States to send their proposal for the same. He assured that Ministry will take a positive decision in this regard. Hon'ble CM of Telangana stated that he would send the request immediately for constituting a Tribunal.
- Submission of New Project DPRs: It was decided that both the States of Andhra Pradesh and Telangana should submit the DPRs of their new projects to GRMB for appraisal and subsequent sanctions by Apex Council.



Five Projects of Telangana, namely, Chanaka-Korata (Rudha) Barrage (5,466 Ha), Choutapally Hanmanth Reddy LIS (3,359 Ha), Chinna Kaleshwaram LIS (18,211 Ha), Modikuntavagu Medium Irrigation Project (5,500 Ha of CCA), Kaddem-Gudem LIS (12,141 Ha) have been accepted by the Advisory Committee of Department of Water Resources, River Development & Ganga Rejuvenation. Government of Andhra Pradesh has been requested to submit the DPRs as per CWC Guidelines.

In respect of Krishna River Management Board:

- Jurisdiction of KRMB: It was decided to notify the jurisdiction of KRMB.
- Submission of New Project DPRs: It was decided that both the States of Andhra Pradesh and Telangana should submit the DPRs of their new projects to KRMB for appraisal and subsequent sanctions by Apex council.

### **KRISHNA RIVER MANAGEMENT BOARD (KRMB)**

The KRMB was constituted vide Gazette Notification No: S.O.1391 (E) dated: 28th May, 2014 in accordance with sub-sections (1), (4) and (5) of section 85 of the Andhra Pradesh Reorganisation Act, 2014.

Subsequent to formation of the Board, various issues related with the functioning of the Board as mandated in the Andhra Pradesh Reorganisation Act, 2014 were discussed in meetings with the senior officers of the States of Telangana and Andhra Pradesh. To sort out the issues

raised by the State Governments, regular meetings were held at technical level as well as Board level. The jurisdiction of KRMB has been notified by MoJS, DOWR, RD & GR by Gazette Notification S.O. 2842(E) dated: 15.07.2021. Subsequently, the amendment to clauses 1(l), 2(f) and 2(g) was notified by Gazette Notification S.O. 1563 (E) dated 01.04.2022. The Gazette Notification S.O. 2842(E) dated 15.07.2021 was further amended by Gazette Notification S.O. 3511(E) dated 27.07.2022.

Besides various technical meetings, the 18th (Special) Board meeting was held on 22.04.2024. Issues related to Administration and Finance were discussed during the meeting.

Ministry of Water Resources, River Development & Ganga Rejuvenation has constituted a committee vide their order No. R-12011/7/2/2016-Pen Riv dated: 05.10.2018 under Chairmanship of Chairman, KRMB to ensure supply of Krishna water to augment the drinking water supply to Chennai city. The meetings of the Committee are held regularly every year.

### **GODAVARI RIVER MANAGEMENT BOARD (GRMB)**

The GRMB was constituted vide Gazette Notification No: S.O.1403 (E) dated 28th May, 2014 in accordance with section 85 of the Andhra Pradesh Reorganisation Act, 2014. Subsequent to formation of the Board, various issues related with the functioning of the Board as mandated in the Andhra Pradesh Reorganisation Act, 2014 were discussed in meetings with the senior officers of the States of Telangana

and Andhra Pradesh. To sort out the issue raised by the State Governments, regular meetings were held at Board level. So far 15 meetings have been held with 15th meeting held on 01.03.2024.

During 2023-24, dialogues have been established with two State Governments and all inter State issues were resolved at the Board level itself requiring no intervention by the Ministry and/or Apex Council. The 15th Meeting of Board was held on 01.03.2024 under Chairmanship of Chairperson, GRMB at Hyderabad on Administrative, Financial and Technical issues. The revised Secretariat organization strength was got approved and the State Governments were requested to depute their Engineers as per the revised Organization Chart. The State Government of Andhra Pradesh assured to submit the DPRs as per CWC Guidelines by May 2024.

During the year 2024-25, 16th Meeting of Board was held on 20.08.2024 under Chairmanship of Chairperson, GRMB at Hyderabad on Technical clearance/ observations on Detailed Project Note on Integrated Sita Rama Lift Irrigation Project (SRLIP) and Sitamma Sagar Multipurpose project (SSMPP) of Telangana. The observations of the Board on the DPN have been communicated to CWC as per flow chart. Further Chairman, GRMB advised GoAP to expedite the submission of DPRs of AP projects to CWC for appraisal which GoAP agreed too.

On the request of GRMB, a study of water availability and water allocated to erstwhile State of Andhra Pradesh as per the Award of Godavari Water Disputes

Tribunal was done by Central Water Commission, on which GRMB is evolving consensus in consultation with the States of Andhra Pradesh and Telangana.

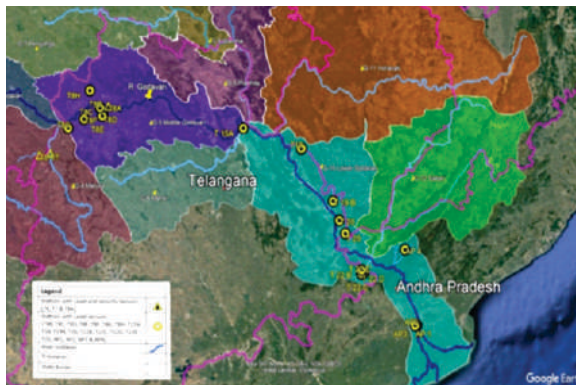
The matter of Modernisation of Peddavagu Medium Irrigation Project (an Interstate project of Andhra Pradesh and Telangana) was under discussion since the 8th meeting of GRMB. As agreed in the 15th Board Meeting of GRMB, a project-specific meeting of States was convened at Hyderabad on 05.08.2024 under the Chairmanship of Chairman, GRMB. Chairman, GRMB enquired about the damages occurred to the dam due to recent floods on 18.07.2024 and the action taken. Chairman, GRMB advised Project officials of both the States to expedite the necessary approval from their governments for modernization of Peddavagu project in a time bound manner since the headwork and canal system of project are in very dilapidated condition for long time. He also advised that both the States may approach NDSA for immediate repair as well as modernization of headwork of project.

The GRMB Board in its 7th meeting decided to install Telemetry Stations in Godavari River Basin initially at all inter State Border points, which may assist in quantification and estimation of water flowing in the States of Andhra Pradesh and Telangana. In the 9th meeting, a Telemetry Committee under the Chairmanship of Member, GRMB was constituted vide letter dated 17.06.2021. The Committee under the Chairmanship of Member, GRMB, along with the officers from States of AP; TS; CWC, Hyderabad and CWPRS, Pune visited all the locations and accordingly identified total 23 locations, with 3 Nos. of level and

velocity sensors and 20 Nos for installing only level sensors initially at interstate borders of AP & TS. In addition, telemetry stations at two Projects were recommended by the Advisory Committee.

Due to paucity of funds and to ensure integration with the telemetry system under NHP, the Governments of Telangana and Andhra Pradesh were asked to install Telemetry Stations in their respective States as recommended by the Telemetry Committee in their respective jurisdictions. Out of total 25 Telemetry stations, State Governments have informed that Level Sensors have been installed at 22 Telemetry stations and are under commissioning. Another three stations are proposed by the State Governments for deletion due to local constraints.

**Added Status of Telemetry Station  
Flowchart (GRMB)**



**Index Map of Proposed Telemetry Stations in Godavari basin**

The State Governments have been requested to evolve a system of water accounting in Godavari River basin in their respective States, which can facilitate regulations of Godavari River waters and establish their prescriptive rights over utilization of Godavari River waters.

Even though section 86(2) of the Andhra Pradesh Reorganization Act, 2014 stipulate that Governments of Andhra Pradesh and Telangana shall at all times provide the necessary funds to GRMB to meet all the expenses required for the discharge of its functions, the State Governments have been found trawanting. Secretary (WR, RD & GR) has taken up the matter with the Chief Secretaries for release of funds to fulfil the statutory obligations of the State Governments.

### **7.3.12 CAUVERY WATER MANAGEMENT AUTHORITY (CWMA)**

The Central Government in exercise of the powers conferred by section 4 of the Inter-State River Water Disputes Act, 1956 (33 of 1956) constituted the Cauvery Water Disputes Tribunal vide notification no. S.O. 437 (E) dated the 2nd June, 1990 to adjudicate upon the water disputes regarding the inter-state river Cauvery and the river valley thereof, among the States of Karnataka, Kerala, Tamil Nadu and Union Territory of Puducherry.

The Cauvery Water Disputes Tribunal submitted its reports and decision under section 5 (2) of Inter-State River Water Disputes Act, 1956 to Government on 5th February, 2007. The decision of CWDT was published by the Central Govt. vide Gazette Notification dated 19.02.2013. Supreme Court, in its judgement dated 16.02.2018, slightly modified CWDT's Order. Hon'ble Supreme Court also directed Central Government to formulate a 'scheme' to implement the CWDT's Order as modified by it. Thereafter, in exercise of the powers conferred by section 6A of the said Act, the Central

Government notified the Cauvery Water Management Scheme on 01st June, 2018, inter alia, constituting the 'Cauvery Water Management Authority' (CWMA) and the 'Cauvery Water Regulation Committee' (CWRC) to give effect to the decision of the Cauvery Water Disputes Tribunal as modified by the Hon'ble Supreme Court on 16.02.2018.

The Authority comprises one Chairman, two whole time Members, two-part time Members, four-part time Members from Party States - Kerala, Karnataka, Tamil Nadu and Union territory of Puducherry. The Head Quarter of the Authority is at New Delhi.

The Authority exercises such power and shall discharge such duty to do any or all things necessary, sufficient and expedient for securing compliance and implementation of the Award of the Tribunal as modified by the Hon'ble Supreme Court vide Order dated the 16th February, 2018 including:

- » storage, apportionment, regulation and control of Cauvery waters;
- » supervision of operation of reservoirs and with regulation of water releases with the assistance of Regulation Committee;
- » regulated release by Karnataka, at the inter-State contact point presently identified as Billigundulu gauge and discharge station, located on the common border of Karnataka and Tamil Nadu.

### **7.3.13 NATIONAL DAM SAFETY AUTHORITY (NDSA)**

Ministry of Jal Shakti Govt. of India

vide gazette notification dated 17.02.2022 constituted National Dam Safety Authority (NDSA) with its headquarters at New Delhi. NDSA is headed by the Chairman assisted by 5 Members viz. Member (Technical), Member (Policy and Research), Member (Regulation), Member (Disaster and Resilience) and Member (Administration and Finance). Posts of Members of NDSA are currently being held by the officers of CWC and DoWR, RD & GR on an additional charge basis. NDSA has four regional offices (North, East & North East, West and South) headed by the Director level officers of CWC on additional charge basis.

After enactment of the Dam Safety Act, Central Government, vide gazette notification dated 17.02.2022 also constituted the National Committee on Dam Safety (NCDS) to evolve dam safety policies and recommend necessary regulations as may be required. NDSA acts as a regulatory authority to implement the policy, guide lines and standards evolved by the NCDS for proper surveillance, inspection and maintenance of specified dams. Further, all the 31 States/UTs having specified dams have constituted the State Committee on Dam Safety and established the State Dam Safety Organization.

As per National Register of Large (Specified) Dams (NRLD-2023), India has 6281 specified dams, out of which, 6138 dams are operational and 143 dams are under construction. Maharashtra has the largest number of specified dams (2333) followed by Madhya Pradesh (1354), Gujarat (487), Chhattisgarh (339), Rajasthan (310), Karnataka (231), Odisha (210), etc. The responsibility for safety of dams, including its operation and



maintenance, rests primarily with dam owners which are mostly the State Governments, Central/State PSUs/Private Units. As per the Dam Safety Act 2021, Dam owners need to carry out regular pre and post monsoon inspection of the dams in their jurisdiction.

**Actions taken by NDSA during FY 2024-25:**

- As per the Dam Safety Act 2021, Dam owners need to carry out regular pre and post monsoon inspection of the dams in their jurisdiction. These inspections are to be carried out as per the inspection guide lines published by the Central Water Commission and shared with the States. The number of inspections of dams has increased significantly after the Act has come into force. Based upon the inspection report, the dams are categorized in category- I, II or III. Depending upon the category of the dam, suitable remedial measures are taken by the dam owners in a time bound manner.
- As per the data reported by the SDSOs for the year 2024-25, a total number of 6366 pre- monsoon and 4313 post-monsoon inspections have been carried out as on 28.11.2024. During the pre-monsoon inspection, 2024, following three dams are reported as Category I dams: (1) Jirgo (UP), (2) Lower Khajuri weir (UP), (3) Laxmi (Medigadda Barrage) (Telangana).
- As per section 54(1) of the Dam Safety Act 2021, the National Dam Safety Authority on the recommendations of the National Committee, has to frame 19 regulations. Out of these 19 regulations, 17 regulations have been published in the official gazette.
- A web-based tool is developed for maintaining inventory of specified dams, their health and rehabilitation monitoring – DHARMA (Dam Health and Rehabilitation Monitoring Application). DHARMA acts as an online repository of all the essential data related to the dam. All pre and post-monsoon inspection data are being fed into DHARMA.
- NDSA held several meetings with 47 dam owners (38 Commissioned and 9 under construction dams), which are likely to be affected by Glacial Lake Outburst Flood (GLOF) from the Glacial lakes in the Indian Territory. Out of these 10 projects are identified at higher risk of GLOF namely. All dam owners are directed to complete the GLOF studies and install early warning system before the onset of upcoming monsoon.
- To build the capacity in Dam safety field, Post-graduation Course in Dam Safety has been undertaken by IISc Bangalore and IIT Roorkee. So far 84 persons have taken post graduate degree in Dam Safety.



- Rapid Risk Screening tool in excel has been developed in collaboration with World Bank experts to carry out Rapid Risk Assessment of all the specified dams in the country.

Multiple trainings were imparted to nominated officials of all the States. All the States have been directed to complete this exercise as early as possible.





# Chapter 8

## Public Sector Enterprises



## 8. Public Sector Enterprises

“Blue Socho Aur Green Ho Jao”

### 8.1 WATER AND POWER CONSULTANCY SERVICES LIMITED (WAPCOS)

WAPCOS Limited is a “MINI RATNA-I” Central Public Sector Enterprise under the administrative control of Ministry of Jal Shakti, Department of Water Resources, River Development and Ganga Rejuvenation, Government of India. Incorporated on June 26, 1969 under the Companies Act, 1956, WAPCOS is engaged in the engineering consultancy services and construction in the fields of Water, Power and infrastructure sectors in India and overseas. The Company has implemented a comprehensive quality management system in compliance with the requirements of both ISO 9001:2015 for consultancy services in water resources, power and infrastructure development projects as well as ISO 9001:2015 for engineering, procurement and construction projects related to residential, office buildings, civil work etc. and related projects.

#### FIELDS OF SPECIALIZATION

- Irrigation, Drainage and Water Management
- Ground Water Exploration and Minor Irrigation
- Flood Control and River Morphology
- Dams and Reservoir Engineering

- Water Bodies & Land Conservation
- Agriculture
- Watershed Management
- Natural Resources Management
- River Basin Planning
- Hydropower
- Thermal Power
- Pumped Storage Projects
- Transmission & Distribution
- Rural Electrification
- Renewable energy development such as solar and wind
- Water Supply, Sanitation and Drainage
- Environmental Engineering
- Ports, Harbours and Inland Waterways
- Urban and Rural Areas development
- Roads, Railways and Highway Engineering
- Buildings & Townships
- Ropeways

WAPCOS render range of services from “concept-to-commissioning” and beyond to various projects in water, power and infrastructure sectors to our clients. Our services for any given project includes any one or a combination of –

- Preliminary Investigations / Reconnaissance



- Feasibility Studies/ Planning/ Project Formulation
- Field Surveys & Investigations and Testing
- Design Engineering
- Baseline and Socio-Economic Surveys
- Tender Engineering
- Institutional/ Human Resource Development
- Project Management and Construction Supervision
- Operation & Maintenance
- EPC/ Turnkey & Deposit Works.

### **ASSOCIATION WITH INTERNATIONAL ORGANIZATIONS**

WAPCOS is associated with a number of development projects funded by multilateral funding agencies like World Bank, Asian Development Bank, African Development Bank, Japan Bank for International Cooperation, United Nations Office for Project Services, French Development Agency and German Development Bank, Asian Infrastructure Investment Bank, European Investment Bank and European Bank for Reconstruction and Development.

### **WAPCOS OPERATIONS**

WAPCOS comprising of highly qualified professionals, vibrant management and excellent infrastructural facilities is poised to meet the challenges of the 21st century very effectively. WAPCOS have been providing engineering consultancy services to various clients since our incorporation in over seventy-five (75) countries.

Company has developed global presence, particularly in South Asia and across Africa, in areas of water, power and infrastructure sectors by undertaking engineering consultancy services for various development projects. Company's wide presence and assignments undertaken overseas demonstrate its global experience and expertise over the years. Presently, Company is undertaking ongoing projects in more than thirty-five (35) countries such as Angola, Afghanistan, Bangladesh, Bhutan, Botswana, Burundi, Cambodia, Central African Republic, Congo, Eswatini, Ethiopia, Fiji, Gambia, Ghana, Indonesia, Laos, Lesotho, Liberia, Mauritius, Myanmar, Mongolia, Mozambique, Nepal, Nicaragua, Niger, Palestine, Rwanda, Republic of Marshall Islands, Sierra Leone, Tajikistan, Tanzania, Togo, Turkey, Uganda, Zanzibar and Zimbabwe including India.

WAPCOS operates in all the states of India through more than 100 project offices with the pride of having involved in almost all the premier Government of India schemes in its fields of operation such as Jal Jeevan Mission (JJM), Atal Mission for Rejuvenation and Urban Transformation (AMRUT), Namami Gange-Integrated Ganga Conservation Mission, Smart City, Pradhan Mantri Awas yojana (PMAY), Pradhan Mantri Krishi Sinchayi Yojana, Pradhan Mantri Gram Sadak Yojana, Swachh Bharat Mission, SAGARMALA Programme, Pradhan Mantri Khanij Kshetra Kalyan Yojana, Revamped Distribution Sector Scheme (RDSS), Pradhan Mantri Matsya Sampada Yojana, Fisheries and Aquaculture Infrastructure Development Fund.



The Company is working on commercial basis. It gets jobs / assignments on competitive basis. It has to apply against Tenders/give Expression of Interest or to get work on its credentials and performance basis. Since its inception, the company has been generating funds by securing business and delivering results.

### **CORPORATE SOCIAL RESPONSIBILITY**

WAPCOS undertakes CSR activities in diverse fields in different States of India, as specified under Schedule VII of the Companies Act, 2013 and guidelines issued by Department of Public Enterprises, Ministry of Finance, Government of India, from time to time.

CSR activities undertaken during the year covered health & nutrition, environmental sustainability, homes & hostels for women, and contribution to Clean Ganga Fund.

## **8.2 NATIONAL PROJECTS CONSTRUCTION CORPORATION LIMITED (NPCC)**

National Projects Construction Corporation Limited (NPCC) was established on 9th January, 1957 as a premier construction company to create the necessary infrastructure for economic development of the country. NPCC Limited is a mini ratna (Category-I) and ISO 9001:2015 accredited Public Sector Enterprise under the aegis of the Ministry of Jal Shakti and is well established in the country with its registered office at New Delhi, corporate office at Gurugram and 14 zonal offices in capitals of different States.

### **FIELDS OF SPECIALIZATION**

- Townships & other Residential Buildings
- Hospitals & Health Sector Projects
- Tunnels & Underground Projects
- Hydro-electric Power Projects
- Roads & Highway Projects
- Canals & Irrigation System
- Thermal Power Projects
- Institutional Projects
- Industrial Structures
- Surface Transport
- Barrages
- Dams

### **MAJOR WORKS COMPLETED:**

- Construction of School Building, Staff Quarters, Boundary Wall and other facilities in schools at Jamai, Chanderi, Noii neemuch & Ganj Basoda in Madhya Pradesh, Matanhail (Haryana), Allahabad (Uttar Pradesh) and Bandel (West Bengal) under Kendriya Vidyalaya Sangathan (KVS).
- Construction of Multi-Storied Accommodation for Patients at Panchavati Campus at Mysuru (Karnataka) for All India Institute of Speech and Hearing (AIISH).
- Construction of Veterinary Science and Animal Husbandry building at Jalukie, Nagaland for Central Agricultural University (CAU).
- Construction of Science Centre cum Planetarium at Koraput under Science and Technology Department, Odisha.

- Construction of Block Public Health Units (BPHU) at Rupsa, Remuna and Khaira in Balasore district of Odisha under National Health Mission.
  - Construction of Veterinary hospital at Sambalpur and extension of Sub-Block Veterinary Dispensary at Arda, Kanaktora in the Jharsuguda Districts of Odisha for Directorate of Animal Husbandry & Veterinary Services.
  - Construction of Border Out-Post (BOP) Kalsipara, Chambal, South Bhootbari and Sankosh in West Bengal for Ministry of Home Affairs (MHA).
  - Construction of Left over works of Phase-A at JNV West Kameng and Phase-B works at JNV Upper Siang under Navodaya Vidyalaya Samiti (NVS) in Arunachal Pradesh.
  - Construction of forest Beat office at various location of Tripura under Japan International Cooperation Agency (JICA) Projects.
  - Construction of Office and admin Block (G+1) at Zunebhuto in Nagaland under Assam Rifles.
  - Construction of Boys and Girls Hostel at Roing in Arunachal Pradesh under North Eastern Council (NEC).
  - Construction of Boys Hostel and Girls Hostel at Dhemaji in Assam for Indian Agricultural Research Institute (IARI).
- MAJOR WORKS UNDER EXECUTION:**
- Construction of various buildings under Pradhan Mantri Awas Yojana (PMAY) for Jharkhand Urban Infrastructure Development Company (JUIDCO) at various locations in Jharkhand.
  - Construction of All India Institute of Ayurveda (AIIA) building at Sarita Vihar (New Delhi), National Research Institute of Ayurvedic Drug Development (NRIADD) building and Construction of Boys Hostel (G+7) for National Institute of Homeopathy (NIH) at Kolkata (West Bengal) and National Institute of Ayurveda (NIA) building works at Jaipur (Rajasthan) under Ministry of AYUSH.
  - Central Agricultural University (CAU) works in North Eastern States of Mizoram, Nagaland and Manipur.
  - Construction of International Guest house, Indoor and Outdoor Stadium and Boy's Hostel under Dr. Rajendra Prasad Central Agricultural University (Dr. RPCAU) in Pusa at Samastipur (Bihar).
  - Construction of Software Technology Parks of India (STPI) infrastructure at various locations in Himachal Pradesh, Bihar, Kerala, Uttar Pradesh and Uttarakhand.
  - Construction & up-gradation of Industrial Training Institute (ITI) at Jabalpur, Rewa, Shahdol & Sagar (Madhya Pradesh).
  - Construction of Hydro Engineering College in Bilaspur (Himachal Pradesh).
  - Construction of Prefab building, Boys Hostel, Girls Hostel, roads, boundary wall and various site

- development works for Indian Agricultural Research Institute (IARI) at Dhemaji (Assam).
- Construction of office building for Central Ground Water Board (CGWB) in Transport Nagar (Union Territory of Jammu & Kashmir) and Ahmedabad (Gujarat).
- Construction of buildings under Pradhan Mantri Awas Yojana (PMAY) works of Karnataka Slum Development Board (KSDB) at various locations in Karnataka.
- Construction of Industrial Biotech Park for Council of Scientific & Industrial Research and Indian Institute of Integrative Medicines (CSIR-IIIM) in Union Territory of Jammu & Kashmir.
- Pradhan Mantri Gram Sadak Yojana (PMGSY) Road works at different locations in Bihar, Jharkhand, Uttarakhand and West Bengal.
- Construction & Remodeling of primary, secondary and tertiary drains of Bruhat Bengaluru Mahanagara Palike (BBMP) at Gandhinagar, Mahalakshmiapuram & Bomanahalli in Karnataka.
- Construction of various police building infrastructure for Police Head Quarters, Leh at Solar Colony, Choglamsar, Leh (Union Territory of Ladakh).
- Construction of Schools & Hostel Buildings at Kakching, Khongong & Tamenglong (Manipur), Wapang (Meghalaya), Roing (Arunachal Pradesh), Teliamura, Gandhigram, Krishnanagar, Tirupeswari (Tripura), Lawngtlai (Mizoram) and Dhansiripar, Dimapur (Assam) under North Eastern Council (NEC).
- Construction of Science Centre Cum Planetarium at various locations in Odisha.
- Construction of Veterinary hospital at various locations for Directorate of Animal Husbandry & Veterinary Services in Odisha.
- Construction of Community Health Center (CHC) G+1 Building, Critical Care Block (CCB) and Block Public Health Units (BPHU) at various locations in Odisha under National Health Mission.
- Construction of New Building of Birbal Sahni Institute of Palaeosciences (BSIP) at Lucknow (Uttar Pradesh).
- Storm Water Drainage Scheme for Municipal Town for Tarakeswar, Hoogly under Tarakeswar Development Authority (TDA) in West Bengal.
- Construction of Research Scholar Hostel under Council of Scientific and Industrial Research-Central Scientific Instruments Organisation (CSIR-CSIO) in Chandigarh.
- Construction of Road Over Bridges (ROBs) under Western Railway and Central Railway at Surat-Vadodara section and Vadodara-Godhra section in Gujarat and Maharashtra.





# Chapter 9

## Initiatives in North East







## 9. Initiatives in North East

**“Jal Nahi Jeevan Nahi”**

### 9.1 NATIONAL INSTITUTE OF HYDROLOGY

To cater the hydrological needs of the North Eastern Region, Sikkim and northern part of West Bengal (Teesta Basin), the North Eastern Regional Centre (NERC, Guwahati), for the Brahmaputra Basin has been actively interacting with the State, Central and Academic organizations working in water resources in this region. The thrust areas of research at NERC, Guwahati are (i) Flood estimation and routing; (ii) Structural/ non structural measures for flood management; (iii) Integrated watershed management for flood control; (iv) Hydrological data base management system; (v) Drainage congestion and erosion problems; (vi) Water quality problems; and (vii) Socio-economic aspect of flood disaster.

As approved by the 19th Regional Coordination Committee meeting on 19th March, 2024, NERC, Guwahati the following studies are undertaken during 2024-25:

- A Coupled Hydrodynamic and Bank Dynamic Modeling Approach for Forensic Analysis of Bankline Erosion Process Along Majuli Island- the Largest Inhabited River Island in the World.
- Drought characterization and vulnerability assessment in Assam.
- Short Term Flood Forecasting Using Bootstrap based Artificial Neural Networks within Beki River basin.
- Linear Hydrological routing using Satellite precipitation datasets for flood forecasting in parts of Brahmaputra Basin.
- Rainfall Induced Flood Hazard Risk Vulnerability Assessment in East Jaintia Hills, Meghalaya.
- Hydrodynamic modelling for riverbank protection- A case study.
- Potential Recharge Zoning and Projection of Future Water Resources Potential in Singda dam of Manipur.
- Isotope characterization of waters and Hydrograph Separation in Dibang river catchment in Arunachal Pradesh.
- Flood Inundation Modelling of Pagladiya River Basin of Assam.

Also, NERC, Guwahati has actively participated along with NERIWALM, Brahmaputra Board, NEHARI, CGWB and CWC in the region in a number of capacity building campaigns and in various Technology Transfer Activities/Awareness activities.

## 9.2 CENTRAL SOIL AND MATERIAL RESEARCH STATION

CSMRS investigated 44 projects, out of which one abroad, 1 International project, 1 project in the NER, 1 interlinking project and the rest were national projects. The investigations comprised field and laboratory investigations in the areas of soil, rock, rockfill, geosynthetics, concrete and its constituents. One project of neighboring country Tanahu Hydroelectric Project, Nepal, was taken up. Myntdu

Leshka St. II HEP, Meghalaya is a project belong to North-East region of India.

## 9.3 CENTRAL GROUND WATER BOARD (CGWB)

Central Ground Water Board carries out its activities in the North Eastern Region (Arunachal Pradesh, Assam, Meghalaya, Manipur, Mizoram, Nagaland and Tripura) through its Regional office at Guwahati and the State Unit Offices. Major activities and achievements of CGWB during 2024 are summarized below:

Sl.No	Activities	Achievements
1.	Field Activities for Aquifer Mapping:	Under NAQUIM programme up to December 2024 entire mappable area has been covered. Under NAQUIM 2.0, an area of 1796 sq.km. & under Special Study an area 390 sq.km. has been taken up. Another special study of deeper aquifers along Kopili fault in Assam has also been taken up for three years. Up to March 2025 it is planned to cover 1361 sq.km. area.
	Ground Water Exploration	From January 2024 to December 2024, CGWB has constructed 14 wells (EW: 04 nos. & Pz: 10 nos.)
	Water Quality Analysis	7106 water samples were analysed for the basic constituents, heavy metals and Uranium.
2	Groundwater Resource Estimation (base year 2020)	Groundwater Resource Estimation as on March 2024 has been completed and was carried out for seven North Eastern States. Report is shared with States.
3	Ground Water Regime Monitoring	Nearly 877 ground water monitoring stations are being regularly monitored four times a year (January, March, August & November). Under urban water level monitoring 77 stations are monthly monitored. 58 nos. of Springs are also included in the monitoring network from January 2024.
4	Short Term Water Supply Investigation.	24 investigations have been carried out
5	Public Interaction Program (PIP)	08 public interaction programmes have been conducted during January 2024 to December 2024 with 1417 participants including 585 female participants.
6	Regulation and control of ground water development and management in the country under CGWA	134 NOCs issued and 257 exempted

Sl.No	Activities	Achievements
7	Training	<p>(a) 01 Tier -II training organised in the NER during September-2024 Total participants in the training are 21 out of which 13 are female participants.</p> <p>(b) 5 Tier III trainings have been organised in NER under the aegis of RGNGWTRI (during January 2024 to December 2024). Total participants in these trainings were 576 out of which 217 were female participants. Total ST participants was 260 nos.</p>

### PMKSY-HKKP- Ground Water Irrigation Schemes in North Eastern States:

Under PMKSY-HKKP-GW, 9 projects were implemented in six North-Eastern States, viz. Assam Phase-I & II, Arunachal Pradesh Phase-I & II, Tripura Phase-I & II, Nagaland, Manipur and Mizoram. The cost of these 9 projects was Rs. 785.85 Crore, where the component of central assistance (CA) was Rs.706.91 Crore, out of which 647.69 Crore has been released.

Under these projects, 12829 irrigation wells have already been constructed against the target of 12,829 wells as on December 2024. Total 48745 ha of command area has been created (target 48,824 ha), benefitting 49074 small & marginal farmers (target 48,452 farmers).

### 9.4 DAM REHABILITATION AND IMPROVEMENT PROJECT (DRIP)

The States of Manipur and Meghalaya (Implementing Agencies: Manipur WRD and Meghalaya Energy Corporation Limited (MePGCL)) are partner States under DRIP Phase II & Phase III with rehabilitation provision of five (5) and six (6) dams with financial outlay of Rs 311 crore and Rs 441 crore, respectively. These States are eligible for central grant of

90% of loan amount. The funding pattern for special categories States is 80:20 (loan: counterpart funding). Under DRIP Phase II, Manipur WRD has awarded 5 tenders for civil works worth Rs. 143 crores, whereas Me PGCL has awarded 5 tender amounting to Rs 85 crore.

### 9.5 NATIONAL PROJECTS CONSTRUCTION CORPORATION LIMITED

NPCC is working in North Eastern States for the last 38 years for developing the infrastructure and other social amenities for upliftment of socio-economy of the people of North-Eastern States, Government of India started border fencing in Assam; thereafter in other North-Eastern States of Tripura, Meghalaya and Mizoram to check the influx of illegal migrant.

### Indo-Bangladesh Border Fencing and Road Works:

NPCC is working on the construction of Border Fence & Road along Indo-Bangladesh Border and Link Road in the North Eastern state like Assam, Tripura, Mizoram & Meghalaya.

- Fence work sanction length: 525.73 km (Actual on ground 511.52 km), completed: 499.64 km.

- Road works sanction length: 359.87 km (Actual on ground 318.354 km), completed: 262.62 km.
- Link Road sanction length: 165.86 km (Actual on ground 105.43 km) completed: 48.83 km

During execution of works NPCC has faced tough challenges like high hilly terrain area, dense forest, unconditional monsoon, landslides, pathetic condition of roads, adverse geographical constraints, insurgency, etc. However, NPCC has made the area accessible with network of road along the border fencing.

#### **Indo-Bangladesh Border Flood-lighting Works:**

Ministry of Home Affairs (GoI) has sanctioned the construction of border flood-lighting along Indo-Bangladesh Border of Tripura and Meghalaya for a total length of 1235.59 km (actual on ground 1215.51 km) where NPCC has completed border flood lighting work of 720.38 km in Tripura and 345.8 km in Meghalaya. The border flood light is serving BSF to have 24 hours' vigil over insurgent groups and illegal migrant.

#### **Border Out Post (BOP) Works:**

MHA (GoI) has sanctioned the work for construction of composite BOPs along Indo-Bangladesh Border in the North Eastern state (Assam, Tripura, Mizoram, Meghalaya) & West Bengal for monitoring of the border activities by BSF. A total of 187 Nos. BOPs had been allotted to NPCC out of which 151 nos. BOP has been completed successfully and handed over to BSF authorities without compromising the teething troubles faced during the

execution of the work. The details are as under:

- Tripura- out of allotted 50 nos. BOP we have completed all the BOP successfully, Mizoram- out of allotted 21 nos. BOP 04 nos. BOP completed till date,
- Assam- out of allotted 6 nos. BOP 05 nos. BOP completed till date,
- Meghalaya- out of allotted 17 nos. BOP 13 nos. BOP completed till date and
- West Bengal- out of 93 nos. BOP 81 nos. BOP completed till date.

#### **Indian Agricultural Research Institute (IARI) Works:**

Construction of Prefab building, Directorate Block, Guest House, Boys Hostel, Girls Hostel, roads, boundary wall and various site development works of IARI at Dhemaji, Assam.

#### **Central Agricultural University (CAU) Works:**

Construction of Multi Technology Testing Centre (MTTC) & Vocational Testing Centre (VTC) at College of Veterinary Science and Animal Husbandry at Selesih (Mizoram), College of Veterinary Science and Animal Husbandry at Jalukie (Nagaland), College of Horticulture & Forestry at Thenzawal (Mizoram), College of Agriculture at Iroisemba, Imphal (Manipur) under Central Agricultural University (CAU).

#### **Assam Rifles Works**

Construction of complete establishment of Assam Rifles in all the States of North-East with administrative



block, hospitals all types of residential quarters, barracks, posts, recreation centers, library building, museum building, MT park, etc.

#### **North East Council (NEC) Works:**

Construction of Skill Development Training Centre, Hostel Building for Girls at Dhamma Dipa School, Birgveshree Shikla Girls Hostel of Kalyan Ashram, Hostel Building for Boys and Girls at Bal Vidya Mandir, School Building cum Teacher's Training Centre at Tripureshwari Shishu Mandir, Establishment of school & hostel infrastructure for under privileged tribal students in Arunachal Pradesh, Manipur, Tripura, Nagaland, Meghalaya, Mizoram and Assam under North East Council (NEC).

#### **Kendriya Vidyalaya Sangathan (KVS) Works**

Construction of School Building, Residential Quarters and Allied Development works at Longding in Arunachal Pradesh and at Tamenlong in Manipur.

#### **Navodaya Vidyalaya Samiti (NVS) Works**

Construction of School Building and Residential quarters, boundary wall and other development works at Upper Siang, East Siang & West Kameng in Arunachal Pradesh and at Kolasib in Mizoram.

#### **North Eastern Regional Institute of Water & Land Management (NERIWALM Works)**

Construction of Various infrastructure works at the campus of NERIWALM Tezpur in Assam.

### **9.6 BRAHMAPUTRA BOARD**

The jurisdiction of Brahmaputra Board covers all NE States including Sikkim and part of West Bengal falling under Brahmaputra Basin. As such most of the initiatives and schemes are within the North Eastern region.

The activities / works taken up by Brahmaputra Board in the north east region are as under:

- Brahmaputra Board has taken up preparation / updation of masterplans of 19 (nineteen) river basins. A pilot project on scientific dissemination and improvement of water management practices of local tribes and indigenous people of NE region in association with NERIWALM has been completed. Another pilot project on improvement of dong water management practices of Bodo tribes of Baksa district in Assam is also in progress.
- Board is also implementing various pilot projects on springshed management and other water resources management projects in the States of Arunachal Pradesh, Meghalaya, Mizoram, Nagaland and Sikkim. In addition, Board has also taken up DPR for springshed management in Mizoram, and DPR for treatment of catchment of Silsako Beel in Meghalaya.
- A pilot project on bio-engineering measures at right bank of Majuli Island was taken up by Brahmaputra Board in collaboration with IIT-Guwahati.

The project has been completed during 2024-25 and maintenance is underway. Besides, during 2024-25, Board has taken up another pilot project on mitigation of flood and river bank erosion in Pachi river with bio-engineering approach in Nagaland.

- The work of preparation of Detailed Project Report to check flash floods and erosion in BTC area by Pagla/ Baitamari, Aie, Beki, Pagladiya, Sankosh, Gangia and Saralbhangra rivers, has been allotted to WAPCOS Ltd, a PSU of the Ministry, which is also in progress. Brahmaputra Board has completed DPRs for S&I and of Balat Phase III, Meghalaya for which Techno-economic has been obtained from CWC. During, 2024-25, Board has also completed draft DPRs for flood management works of Manu and Khowai river of Tripura. Board has also taken up preparation of revised DPR of Amjur DDS in Silchar, Assam.
- Brahmaputra Board has taken up various flood & erosion management schemes at Majuli & Neamatighat of Assam; at Dholla-Hatighuli in Assam; in Arunachal Pradesh, and in Meghalaya. This year, Brahmaputra Board has also taken up implementation of development of Dimapur Airport Drainage scheme in Nagaland.
- Brahmaputra Board through its institute viz. – North Eastern Hydraulic & Allied Research Institute (NEHARI) has also taken up hydraulic model study for

construction of railway bridge near Saraighat, Guwahati, Assam and near Tezpur, Assam. NEHARI, Brahmaputra Board is conducting various training programmes for capacity building of officers of State Government / Central Government posted in North East.

- The activities carried out by Brahmaputra Board in North Eastern Region have already been covered in detail in Chapter 7.

## 9.7 NORTH EASTERN REGIONAL INSTITUTE OF WATER AND LAND MANAGEMENT

### TRAINING PROGRAMMES

The Institute caters to the needs of all the States of the North Eastern region. Participation of each State in the capacity building programme was recorded for the year 2024. State wise participant of training in 2024 (from 1st April to 10th December, 2024) is given below:

Name of state	Total number of participant	Name of State	Total number of participant
Assam	1407	Nagaland	01
Arunachal Pradesh	395	Tripura	46
Manipur	238	Sikkim	131
Meghalaya	48	Other states	77
Mizoram	01		
<b>Total: 2344</b>			

In addition to physical training, NERIWALM uploaded e-learning modules on the i-GOT platform on overview of water resources, command area development and water use efficiency. The institute has

been accredited as “EXCELLENT” under the Capacity Building Commission's National Standards. The soil and water laboratory has also been NABL accredited

#### **OUTREACH ACTIVITY:**

NERIWALM in collaboration with Brahmaputra Board is implementing a project on good water management practices in the NE region of India. The best practices of water management and water conservation at Ziro and Pakke Kassang, Arunachal Pradesh have been initiated with community participation. Participatory evaluation and lesson learning workshops were conducted for community members for effective water management through participatory approach.

#### **SPONSORED TRAINING/ WORKSHOP / SEMINARS**

Out of the 59 training programmes conducted during the year, Institute received sponsorship for 06 (six) training/ workshops, while 13 (thirteen) were conducted as self –financed and remaining (40 Nos.) were conducted from Institute's funds.

#### **INDUCTION TRAINING PROGRAMMES**

The institute conducted 02 (two) Induction Level Training Course for newly recruited Engineers of Irrigation Department of Govt. of Assam, 02 (two) for newly recruited engineers of Agriculture Department of Govt. of Assam, 01 (one) for newly recruited MTS of Brahmaputra Board while 02 (two) for Officers from Central Ground Water Board will be held in the month of January, 2025. 01 (one) faculty development programme was also conducted in advances in agriculture and water management.

#### **NATIONAL COLLABORATIVE TRAINING PROGRAMMES**

The institute has organized 02 days National Seminar on Advances in Irrigation Technologies and Management in collaboration with Central Water Commission, Central Ground Water Board, National Water Academy, Rajiv Gandhi National Ground Water Training and Research Institute, National Institute of Hydrology, Irrigation Department, Govt. of Assam, Brahmaputra Board, and ICAR-IIWM.



National Seminar on Advances in Irrigation Technologies and Management held during 29-30 Nov, 2024

## M.TECH COURSE IN WATER RESOURCE MANAGEMENT

One of the objectives for establishing NERIWALM is to prescribe courses in water and land management for irrigation and agriculture and hold examinations and grant certificates, diplomas etc. by seeking affiliation with universities and other appropriate academic bodies.

For M.Tech and PhD courses, NERIWALM is affiliated to Assam Science and Technology University, Guwahati. The course is approved by AICTE, Govt. of India. In 2024, 15 students (Sixth batch) enrolled in the M.Tech programme. Out of 15 students, 02 (two) were enrolled as per their GATE score and also receiving fellowship. The main subjects covered in the course are Surface and Ground Water Hydrology, Water Quality, Irrigation, On-farm development, Integrated Water Resource Management, Research Methodology and IPR, Water Legal Aspects, Remote Sensing and GIS etc.

## RESEARCH & DEVELOPMENT (R & D) ACTIVITIES

The institute undertook R&D activities from different Ministries of Government of India & State Government Departments of NER States. During 2024-2025, institute has undertaken State Specific Action Plan for Water Sector for 19 (nineteen) states of India, concurrent evaluation of irrigation project (PMKSY-AIBP) in Assam, concurrent evaluation of irrigation project PMKSY-HKKP in Meghalaya, Good water management practices in NE region for better basin planning in Arunachal Pradesh, Farmers

participation in irrigation Management: A case study in Manipur, Study on soil moisture conservation with organic mulching in potato (*Solanum tuberosum* L.) cultivation after the harvest of Sali paddy (*Oryza sativa* L.) in Assam situation and Analysis of hydro- geomorphic and social aspects of dam in lower reaches of Ranganadi HPP with special reference to climate change.

## 9.8 NATIONAL RIVER CONSERVATION PLAN WORKS IN NORTH EASTERN STATES:

Achievements under National River Conservation Plan (NRCP) in various NER States are as follows:

**Sikkim:** Under NRCP, projects were sanctioned for conservation and pollution abatement of rivers Rani Chu, Teesta and Rangit in Sikkim at a cost of Rs.569.00 crore in 6 towns namely Gangtok, Ranipool, Singtam, Mangan, Chungthang and Geyzing. The works sanctioned under the projects pertains to interception & diversion of sewage, sewage treatment plants, rehabilitation of sewer mains, low-cost sanitation, river front development and improved wood crematoria. Sewage treatment capacity of 26.00 MLD is envisaged to be created in these towns. Under the project, a STP of 20.12 MLD has already been commissioned along with other infrastructure facilities and river front development works. The scheme is presently under implementation.

**Nagaland:** For pollution abatement of rivers Diphu and Dhansiri at Dimapur, Nagaland, works have been sanctioned under NRCP at an estimated cost of

Rs.78.65 crore. Under the project, a STP of 25.43 MLD has already been commissioned. At present, project for pollution abatement of 14 rivers namely; Dhansiri, Chathe, Zungki, Garu, Melak, Tapi, Punyaonganmong, Keleureu, Sedzu and Tizu, Donyung Shumang, Mutsum, Marache has been sanctioned under NRCP at a cost of Rs.61.47 crore in 13 towns of Nagaland. 13 Fecal sludge treatment plants with a total capacity of 220 KLD in 13 towns of Nagaland are under implementation.

**Manipur:** For pollution abatement of river Nambul at Imphal, Manipur, works

have been sanctioned under NRCP at an estimated cost of Rs.97.72 crore. The works envisaged under the project include construction of 2 sewage treatment plants of 16 MLD & 1 MLD capacities, and other allied sewerage works like low-cost sanitation, afforestation, etc. Under the project, a STP of 16 MLD has already been commissioned. At present, project for pollution abatement of Manipur-Imphal rivers has been sanctioned under NRCP at a cost of Rs.92.39 crore in 27 ULBs of Nagaland. Sewage treatment capacity of 36.00 MLD is envisaged to be created. The projects are presently under implementation.







# Chapter 10

## Wings of the Department, Training & Governance





## 10. Wings of the Department, Training & Governance

“Shuddh Jal Behtar Jeevan”

### 10.1 WINGS OF THE DEPARTMENT

The work allotment of different wings/ divisions of the Department is summarized as below:

#### I. ADMINISTRATION WING HEADED BY JOINT SECRETARY (ADMN./IC & GW)

- **ADMINISTRATION SECTION INCLUDING SC/ST & OBC CELL)**
  - » Establishment matters of all (Group 'A', 'B' and 'C' employees of the Department (Sectt.))
  - » Engagement of Consultants
  - » Training Cell
  - » Advances
  - » Deputation of Assistant Secretaries
  - » Matters related to Hon'ble Minister and Hon'ble MoS Office
  - » E-HRMS
  - » FR 56(j)
  - » Reports / Returns
  - » Leave / LTC / Service Book etc. related matters
  - » APAR Cell
  - » Court Cases
  - » Air Ticket Cell
  - » Recruitment Rules
  - » SC/ST/OBC/PWD Cell

- » Matters related to Allocation of Business Rules, 1961
- » Election Matters
- » Miscellaneous Matters

#### • CASH SECTION

- » Salaries Bills
- » GPF: GPF maintained of 252 Officers/ officials of Old Pension scheme) in PFMS Portal, annual interest calculation end of March of every year. GPF transfer cases are running whole year.
- » After Superannuation benefits: payment of Gratuity, Commutation of Pension, Death Gratuity, Leave encashment on retirement & CGEIS payment through PFMS Portal etc.

#### • COORDINATION SECTION

- » Handling matters requiring coordination with different Wings / Divisions for information required by PMO, NITI Ayog, Cabinet Secretariat and other Ministries
- » Monitoring of e-Samiksha, PM Ref. Portal, PRAGATI Portal, VRMS Portal, RTI Portals etc.
- » Nodal Division for handling Public Grievances, CPGRAMs & RTI

- » Furnishing information and disposal of RTI requests and appeals pertaining to coordination section
- » Preparation of material for Hon'ble President's Address to both the House of Parliament
- » Preparation of material for Hon'ble Prime Minister Independence Day speech and preparation of status/action taken on announcements made by Hon'ble PM on Independence Day etc.
- » Collection, compilation and furnishing the Monthly, Quarterly, Half-Yearly and Yearly reports to be sent to different Ministries, Cabinet Secretariat and Hindi Wing of the Department
- » Annual Capacity Building Plan (ACBP) and implementation of Mission Karmayogi
- » Nominations of Officers for Meeting / Workshops / Seminars.
- **O&M SECTION**
  - » Record Management Activities.
  - » Departmental Records Room's Inspection by NAI team and follow up.
  - » Appraisal of more than 25 years old physical records/files by NAI team & follow up.
  - » Various Half Yearly / Annual reports and returns on Records Management compilation and submission to NAI and DAR&PG.
- » Getting periodical review of physical records lying in Departmental Record Room done by concerned sections/ Divisions.
- » Recording, Reviewing and Destruction of old records in the Department.
- » Compilation of information on Review of Records Retention Schedule for Substantive functions of the Department and getting vetted by NAI.
- » Maintenance and upkeep of Departmental Records Room (DPR) located at CSMRS Building, Hauz Khas, New Delhi.
- » Compilation of Organization History, Induction Material and Allocation of Works among various Wings / Divisions / Sections of the Department
- » O & M (Administrative) Inspections of attached / Subordinate offices of the Department
- » Liaison with DAR&PG, NAI
- » Compilation of information related Special Campaign on disposal of Pending matters and uploading on SCDPM Portal on daily / monthly basis
- » Compilation of provisions of Manual of Office Procedures in the Department.
- **e-GOVERNANCE SECTION:**
  - » To look after the Information Technology (IT) functions of this Department and e-Governance.



- » Implementation of e-Office in the Department (Proper) and its Organisations
- » E-Governance related functions and implementation thereof.
- **INFORMATION, EDUCATION AND COMMUNICATION (IEC) SECTION:**  
Information, Education and Communication Section has been assigned task of carrying out mass awareness activities/ programmes on water conservation and water resources management of the Department;
- **ESTABLISHMENT – I SECTION:**  
All administrative and organizational matters relating to CWC and its Offices.
- **ESTABLISHMENT – II SECTION:**  
All administrative and organizational matters relating to CSMRS, CWPRS, NIH and NERIWALM.
- **ESTABLISHMENT – III SECTION:**  
All administrative matters pertaining to the Brahmaputra Board, GFCC, Farakka Barrage Project and Upper Yamuna River Board.
- **ESTABLISHMENT - IV SECTION:**  
Deals with the Establishment matters in respect of NCA, NWDA, BCA, BRB, TB, KRMB, GRMB, PPA, CWMA and monitoring of Court Cases through LIMBS portal but no policy matters.
- **GROUND WATER (Estt.):**
  - » Establishment matters relating to Group 'A' officers of the CGWB/CGWA, including recruitment, promotion, confirmation, etc.
- » Cadre review of Group A, B, C, D officers of the Board.
- **EA & IC:**
- **EXTERNALLY AIDED PROJECTS:**  
Funded by World Bank, JICA, Germany, ADB and other Multilateral Banks.
  - » **INTERNATIONAL COOPERATION:** Collaboration / Bilateral agreements / Cooperation in the field of Water Resources with Foreign countries including signing of memoranda of understanding.
  - » **FOREIGN TRAININGS AND DEPUTATION:** Matters relating to participation of the Indian delegation in the International events such as World Water Forum, World Water Week, World Water Day, G-77, G-20 and other important Global Platforms etc (On invitation basis). Processing of matters relating to official foreign visits by Hon'ble Minister (Jal Shakti), Hon'ble Minister of State (Jal Shakti) for the matter pertaining to Department of Water Resources, RD&GR. Processing matters relating to foreign visits of officers for Joint Working Group Meetings under the implementation of MoUs signed with foreign countries.
- **Vigilance Section:**
  - » Application of CCS (Conduct) Rules, 1964/ CCS (CCA) Rules, 1965 in respect of cases attracting vigilance angle and

their interpretation/clarification.

- » Disciplinary cases of vigilance nature of all employees of the Department (proper), as well as of CSS/CSCS/ CSSS cadres and officers of Group 'A' services of attached and subordinate offices and related action thereon.
- » Immovable Property Returns/intimation of acquisition/disposal of movable/immovable property under the CCS (Conduct) Rules 1964 and AIS Rules in respect of officers and staff of the Department proper.

- **PARLIAMENT SECTION:**

Coordination of replies to all Lok Sabha and Rajya Sabha Questions including Short Notice Questions.

**Coordination with the concerned House of the Parliament** on the laying of Annual Report / Audited Accounts/ Review/ Delay Statement of the organization under the control of DoWR etc;

- **GROUND WATER DESK:**

Groundwater desk shall be the subject matter division (SMD) for all technical matters of CGWB & CGWA. All personnel/establishment & administrative matters shall be dealt by GWE division of the Ministry.

## II. FINANCE WING: HEADED BY JOINT SECRETARY & FINANCIAL ADVISER

- **BUDGET SECTION / Fin-I:**

» Examination/ compilation/ preparation of following budgetary stage documents:

- i. Statement of Budget Estimates
- ii. Detailed Demand for Grants
- iii. Revised Estimates
- iv. Supplementary Grants

» Works relating to re-appropriation of funds

» Laying of Demands for Grants and Output - Outcome Monitoring Framework document of DOWR, RD&GR on the Table of the Parliament

» Works relating to the meetings of Finance Minister and Secretary (Expenditure) with Financial Advisors

» Expenditure review under scheme and establishment expenditure etc;

» Budget at Glance is provided at Annexure-X.

- **INTEGRATED FINANCE DIVISION (IFD) / Fin-II:**

» Advising the Department and its organizations on all policy issues having financial implications.

» Examination and furnishing comments on draft Memo for EFC/SFC Appraisal/Cabinet Notes etc.

» Scrutiny of proposals of all Wings requiring financial concurrence within the delegated powers of the Department.

- » Examination of expenditure proposals, proposals for creation/ revival of posts and all matters requiring approval of Ministry of Finance.
  - » Examination and tendering advice on cases for deputation to foreign countries and on foreign travels.
  - **CONTROLLER OF ACCOUNTS (CA)**
    - » Preparation of monthly and annual (financial and appropriation) accounts.
    - » Regular monitoring of expenditure and receipts.
    - » Internal Audit.
    - » Coordination of Ministry's responses to external (CAG) audit.
    - » Preparation of Appropriation Accounts.
- III. RIVER DEVELOPMENT AND PUBLIC POLICY WING: HEADED BY JOINT SECRETARY (RD & PP)**
- **POLICY & PLANNING:**
    - » Policy matters related to water resources of the country like: Formulation and revision of National Water Policy; Matters related to Hydro-Meteorological Data Dissemination policy; Sediment Management Policy.
    - » Matters related to National Commission for integrated Water Resources Development & Management (NCIWRDM)
    - » Coordination of the meetings of National Water Resources Council (NWRC) and National Water Board (NWB);
    - » Monitoring and other matters related to Development of Water Resources, Information System (DWRIS).
  - **BASIN MANAGEMENT – I:**
    - » Administration and amendment of Inter State River Water Dispute (ISRWD) Act, 1956; Administration and amendment of River Boards Act, 1956 and matters relating to River Basin Management Bill;
    - » Dam Safety Bill- 2020 (Legislative matters only);
    - » Work related to formation of Ganga Management Board (GMB);
    - » Coordination of Works related to Inter Linking of Rivers (ILR);
  - **BASIN MANAGEMENT – II:**
    - » Setting up of water disputes tribunals and reference of disputes to tribunals under the Inter-State Water Disputes Act. Also administrative and legal matters connected therewith: Ravi-Beas Water Tribunal (RBWT); Mahanadi Water Dispute Tribunal; Krishna Water Dispute Tribunal (KWDT); Mahadayi Water Dispute Tribunal (MWDT) etc.
  - **PEN RIVER- I:**

Inter-State issues/disputes on use, distribution and control of water related to rivers Godavari, Krishna, Cauvery, Mahi, Sabarmati, Narmada, Tapi, West flowing rivers from Tapi to Tadri and Tadri to Kanyakumari.

- **PEN RIVER- II:**

Inter-State issues/disputes on use, distribution and control of water related to rivers Subarnarekha, Brahmani-Baitarani, Mahanadi, Pennar and rivers of Andaman and Nicobar Islands & Pudducherry; East flowing rivers between Mahanadi & Pennar and between Pennar & Kanyakumari; rivers of Kutch & Saurashtra including Luni; rivers of Island of Dadra & Nagar Haveli and Daman & Diu; rivers draining desert in Rajasthan.

Works related to drought such as nominations from the Department for IMCT and the Dam Rehabilitation and Improvement Project (DRIP), issues related with implementation of Dam Safety Act, 2021, Safety issues of Mullapariya Dam, Technical matters of Bansagar Control Board and Betwa River Board.

- **PEN RIVER SECTION:**

- » Administrative matters of Pen. River Wing
- » General Finance matters and outcome Budget on DRIP
- » Matters related to Internal Work Study
- » Constitution of Committee on inter-state issues related to

rivers allocated to the Divisional Head of this Division

- » Matter relating to Internal/ External Audit and C&AG Compliance related to DRIP matter
- » General Matters concerning all committees like Standing Committee of Parliament, Consultative Committee etc. on the subject allocated to Divisional Heads of Peninsular Rivers Division.

- **RIVER DEVELOPMENT:**

- » Studies and schemes related to rivers/spring rejuvenation.
- » River Water Quality Management, pollution abatement in rivers.
- » Studies related to impact of climate change, glacier melt, etc., on rivers.
- » Environmental flow / longitudinal connectivity in rivers, to ascertain effect of e-flow on Ecosystems, habitats and biological organisms.

- **NHP- UNIT- I:**

- » All matters related to RTDAS SW, SCADA and related instruments including procurement, hydro met network physical and financial progress, installation and commissioning of RTDAS SW system.
- » Coordination for data sharing related to WRIS/WIMS.
- » All matters related to NWIC.
- » India WRIS-State WRIS

integration.

- **NHP: UNIT- II:**

- » All matters related to Knowledge Products and Studies pertaining to Surface Water.
- » All matters related to Surface Water PDS including physical & financial Progress.

- **NHP: UNIT- III:**

- » All matters related to RTDAS- Ground Water and related instruments including procurement, physical & financial progress, examination & finalization of bids, installation, and commissioning and data transmission to WIMS.
- » Piezometers – Hydro-network, Construction, physical and financial progress

- **PSU Section:**

PSU Section deals with all matter of Board level posts i.e. appointment, extension and creation etc. of two CPSEs (WAPCOS and NPCC) etc.

- **GENERAL ADMINISTRATION SECTION:**

- » Purchase and online distribution of stationary, cartridges, crockery, briefcase, consumable items etc.;
- » Swachh Bharat work including coordination with all offices and reporting to Ministry of Drinking Water and Sanitation including works related to organization of Swachhta Pakhwada by the Department;

- » Modernization and renovation of office space including toilets in all buildings of the Department.
- » All housekeeping related works such as outsourcing of services for housekeeping work, sanitization of office space etc.

- **CENTRAL REGISTRY (C.R.) SECTION:**

- » Receipt, Scanned/ diary and distribution of incoming dak.
- » Despatched of outgoing dak.
- » Maintenance of accounts of postage stamps and Frankling machines postage values.
- » Settlement of speed post bills.

#### **IV. ECONOMIC ADVISORY WING: HEADED BY ECONOMIC ADVISER**

- **PLANNING UNIT:**

- » Preparation of Annual Report of the Department.
- » Third Party Evaluation of Central Sector Schemes of the Department in coordination with internal SMDs and coordinating the feedbacks and comments of internal SMDs to the Third Party Evaluation of Centrally Sponsored Schemes of the Department by NITI Aayog.
- » Liaison with NITI Aayog in preparation of Output-Outcome Monitoring Framework document and updating quarterly physical and financial progress i.r.o. schemes of the



Department.

- » To update and integrate NIP, PMG and PM Gati Shakti Portal.
- » Communication with other Ministries / Departments related to Gender Budgeting, allocation of resources for SC/ST, updation of India Code Portal, Economic Survey, input for Budget Speech etc.
- » Holding of monthly Standing Audit Committee meeting for speedy disposal of PAC and C&AG audit paragraphs.

• **HINDI SECTION:**

- » To ensure the implementation of instructions/ directions and constitutional provisions on Official Language, Official Languages Act, Official Languages Rules etc., in the Department and its subordinate organizations.
- » To ensure the implementation of Presidential Orders on the Reports of Committee of Parliament on Official Language and issue instructions to all Sections and Officers in the Department and Subordinate Offices.
- » Translation of Parliament Questions' answers, Cabinet notes, Standing Committee materials, Annual Report, Statutory reports, Orders, Letters etc. into Hindi.

**V. STATE PROJECTS WING:  
HEADED BY COMMISSIONER  
(SPR)**

• **SPR-I:**

- » Release of Central Assistance under PMKSY-AIBP & CADWM for the States of Andhra Pradesh, Assam, Bihar, Jharkhand, Karnataka, Kerala, Odisha, Tamil Nadu & Telangana;
- » Works relating to Polavaram Irrigation Project (declared as National Project as per AP Reorganization Act, 2014);
- » Parliament Questions/ VIP References/ PMO references pertaining to the work allocated to SPR-I division and related Parliamentary matters;
- » Works related to evaluation, Audit, Court Cases etc. of above mentioned PMKSY-AIBP & CADWM and National Project when taken up;

• **SPR-II:**

- » Works related to Accelerated Irrigation Benefit Programme (AIBP) and Command Area Development & Water Management (CAD&WM). Central Assistance releases under Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)-AIBP and CAD&WM for Major and Medium Irrigation/ Multipurpose projects for the states Chhattisgarh, Goa, Madhya Pradesh, Maharashtra, Uttar Pradesh, Uttarakhand, Punjab, Rajasthan, Himachal Pradesh, Haryana, Gujarat and the Union Territories of Jammu

& Kashmir and Ladakh.

- » Works related to National Projects (other than Interlinking of Rivers (ILR) projects. Release of Central Assistance for the National Projects of the aforesaid States.

- **MINOR IRRIGATION (SMI & RRR):**

- » Work related to Surface Minor Irrigation (SMI) Schemes under Har Khet Ko Paani (HKKP) component of Pradhan Mantri Krishi Sinchayee Yojana (PMKSY).
- » Examination of schemes for inclusion in the Surface Minor Irrigation (SMI) Scheme.
- » Work related to Repair, Renovation and Restoration (RRR) of Water Bodies Schemes under Har Khet Ko Paani (HKKP) component of Pradhan Mantri Krishi Sinchayee Yojana (PMKSY).
- » Examination of schemes for inclusion in the Repair, Renovation and Restoration (RRR) of Water Bodies Scheme.

## **VI. COMMAND AREA DEVELOPMENT & WATER MANAGEMENT CADWM) WING: HEADED BY COMMISSIONER (CADWM)**

- » Release of central assistance to States and Union Territories for implementation of CAD Programme other than PMKSY under Five Year Plans and Annual Plans.

- » Monitoring and review of CAD Projects other than PMKSY and evaluation studies. Examination of water management / CAD aspects major and medium irrigation projects except those under PMKSY received from CWC.
- » Examination projects for inclusion in the CAD programme. Liaison with NITI Aayog, Ministry of Agriculture, ICAR, etc.
- » Coordination regarding On-farm water management projects proposed by ICAR and Ministry of Water Resources.
- » Farmers Exchange Programme in States and Action Research Programme.

## **VII. BRAHMAPUTRA AND BARAK WING: HEADED BY COMMISSIONER (B&B)**

- **BB & BARAK:**

- » Technical and financial matters related to the Brahmaputra Board except Flood Management Programme.
- » Release of grant-in aids to Brahmaputra Board under RBM Scheme.
- » Matter related to approval of Master Plans prepared by Brahmaputra Board.

- **NORTH EASTERN REGION:**

- » International matters in the field of water resources sector with China and Bhutan including strategic economic

dialog (SED) meetings with China.

- » Matters related to Hydro-Power Development in North Eastern Region, Clearance of Detailed Project Reports.

#### **VIII. MINOR IRRIGATION STATISTICS WING: HEADED BY ADDITIONAL DIRECTOR GENERAL (STAT.)**

- » Implementation of Centrally Sponsored scheme 'Irrigation Census'.
- » Conduct of Census of Minor Irrigation Schemes as well as Census of Water Bodies on quinquennial basis.
- » Release/ revalidation of grants in aid to States and UTs for conduct of Minor Irrigation Census and Census of Water Bodies.
- » To review the performance of Statistical Cell created in different States/ UTs under Irrigation Census Scheme.
- » Release of fund for Statistical Cell in States and UTs under Irrigation Census scheme.

#### **IX. FLOOD MANAGEMENT WING: HEADED BY COMMISSIONER (FM)**

##### **• DIVISION – I:**

- » India-Bangladesh Water Resources related matters pertaining to common border/ trans-boundary rivers: Implementation of Ganges

Water Sharing Treaty (1996) with Bangladesh on the sharing of Ganga/ Ganges waters at Farakka during the lean season. Matters relating to the Joint Committee to oversee the implementation of the Treaty and making arrangements for joint hydrological observations at Farakka (India) and Hardinge Bridge (Bangladesh) on river Ganga as per provisions of the Treaty. Selection of Indian Team and its deputation to Hardinge Bridge in Bangladesh for joint hydrological observations.

- » Matters relating to India-Bangladesh Joint Rivers Commission (JRC) headed by Union Minister for Jal Shakti, Technical Level Committee and various other Joint Committees/ Groups formed from time to time under the framework of Joint Rivers Commission including convening of bilateral meetings.
- » Exchange of river data with Bangladesh on identified common border / trans-boundary rivers for scientific study and preparation of framework for the interim water sharing agreements on these rivers as per identified priority jointly.

##### **• DIVISION – II:**

- » Implementation of centrally

sponsored Scheme "Flood Management and Border Areas Programme (FMBAP)" in the country comprising of two major components viz. Flood Management Programme (FMP) component and "River Management Activities and Works related to Border Areas (RMBA)" component.

- » Expert Committees/ Task Forces/ Working Groups on Flood Management.
- » Crisis Management Plan and National Disaster Management Authority matters related to floods.

• **DIVISION – III:**

- » India - Nepal Matters : Implementation of Mahakali Treaty for the "Integrated Development of the Mahakali River including Sarada Barrage, Tanakpur Barrage and Pancheshwar Project". All matters related to Pancheshwar Development Authority except establishment matters.
- » Matters relating to various joint India-Nepal Committees including Joint Ministerial Commission on Water Resources (JMCWR), Joint Committee on Water Resources (JCWR), Joint Standing Technical Committee (JSTC), Joint Team of Experts (JTE), Joint Committee on Inundation and Flood Management (JCIFM), Joint Committee on Kosi and

Gandak Projects (JCKGP).

- » Matters related to India-Nepal joint projects including Saptakosi High Dam Multipurpose Project and Sun Kosi Storage cum Diversion Scheme, Kamala Dam project and Bagmati Dam project.

• **DIVISION – IV:**

- » Technical Matters pertaining to Upper Yamuna River Board, Upper Yamuna Review Committee and Yamuna Standing Committee.
- » Steering the implementation of balance works of North Koel Reservoir Project.
- » Implementation of MoU on sharing of Yamuna waters, Renuka, Kishau and Lakhwar-Vyasi dams in Yamuna basin.

**X. INDUS WING: HEADED BY COMMISSIONER (INDUS)**

- » **Matters related to Eastern Rivers of Indus System and BBMB:** Sutlej- Yamuna Link (SYL) Canal- Works related to its implementation, court cases, meetings, funding and release of grants-in-aid.
- » Water related issues among Punjab, Haryana and Rajasthan - Restoration of 0.6 MAF of Rajasthan's share of surplus Ravi Beas waters, Transfer of Control of Head works at Ropar, Ferozepur and Harike, BML-Hansi Branch-Butana Branch

Multipurpose Link channel, court cases thereof etc.

- » **Matters related to Indus Waters Treaty 1960**

## **XI. NATIONAL WATER MISSION WING: HEADED BY MISSION DIRECTOR (NWM)**

### **• ADVISER (TECHNICAL) AND ADVISER (COORDINATION & MONITORING):**

- » Setting up of National Bureau of Water Use Efficiency (NBWUE);
- » Preparation of State Specific Action Plans and Implementation thereon;
- » Incentivization of sectors like industries, farmers, local bodies, water users' associations etc. for water conservation;
- » Coordinating for taking up Baseline Study, Benchmarking and Demonstration Projects for Water Use Efficiency;
- » Matters related to National Action Plan on Climate Change and National Water Mission;
- » Inter-Ministerial committee on Water Conservation.

### **• RESEARCH & DEVELOPMENT DIVISION:**

Coordination of activities related to research and development in water sector to be taken under the component "Research and Development Programme in Water Sector" of the scheme titled "Research and Development Programme in Water Sector and

Implementation of National Water Mission".

### **• BUREAU OF WATER USE EFFICIENCY- HEAD: DIRECTOR**

- » Planning and executing nation-wide program for promotion of efficient use of water in irrigation, domestic water supply, municipal and/or industrial uses in the country.
- » Making necessary regulatory directions to promote Water Use Efficiency.
- » Prescribing guidelines for water conservation codes, standardizing and developing codes and facilitate their notification from concerned authorities.
- » Developing standards for water efficient fixtures, appliances, sanitary wares and other equipment using water in both urban / rural areas to specify equipment and appliances or class of equipment/appliances as the case may be for the purpose of water use efficiency.
- » Evolving a system of efficiency labelling/ blue labelling, Water footprint and protocols.
- » Assessment of water foot print and water auditing in Agriculture sector to minimize virtual export of water.
- » Evolving a system for incentivizing for promotional efforts to increase in water use efficiency.
- » Creating a Resource Centre and Data Bank related to various aspects of Water Use Efficiency.



- » Promoting research and development including research in the field of water conservation in order to increase the water use efficiency. Work towards capacity building and mass awareness through Information, Education and Communication (IEC) by organizing training by specialists in the techniques for efficient use of water and its conservation. Promote region specific projects on water use efficiency in collaboration with Central/State Government institutions.

## **XII. NATIONAL RIVER CONSERVATION DIRECTORATE (NRCD): Headed by Joint Secretary (NRCD)**

Centrally Sponsored Scheme (CSS) i.e. National River Conservation Plan (NRCP) jointly with the State Governments on a cost sharing basis for abatement of pollution in identified river stretches of India (excluding river Ganga and its tributaries).

## **XIII. GANGA REJUVENATION WING: HEADED BY DIRECTOR GENERAL (NMCG)**

### **NAMAMI GANGE MISSION:**

- Matters of Rejuvenation, Protection and Management of river Ganga and its tributaries and National Mission for Clean Ganga.

- Relating to Coordination Work of National Mission for Clean Ganga with other Wings of DoWR, RD & GR.
- Processing of budget and other financial proposals for National Mission for Clean Ganga.

## **10.2 INTERNATIONAL YOGA DAY: 2024**

10th International Day of Yoga, was celebrated as per the directions of Ministry of Ayush. A yoga event was also organized in Sectt. (proper) in the parking area of Shram Shakti Bhawan on 21.06.2024 at 07:00 AM. with help of Prajapita Brahma Kumaris Iswariya Vishwavidyalya. They conducted sessions on 'Benefit and Technique of Rajyog' and 'Meditation on Healthy and Happy Life' for officers/staff of DoWR, RD & GR. Hon'ble Minister of State Shri Raj Bhushan Choudhary also attended the sessions.



10th International Yoga Day celebrated at Shram Shakti Bhawan

### 10.3 INTERNATIONAL WOMEN'S DAY: 2025

On the occasion of International Women's Day 2024, DoWR, RD & GR organised a self-defence training program on 8th March 2024 from 2.00-3.00 PM in Conference room of Shram Shrakti Bhawan, New Delhi. Subsequently, International women's day 2025 will be celebrated on 8th march 2025.

### 10.4 HAR GHAR TIRANGA PROGRAMME

The Department has celebrated Har Ghar Tiranga Programme. Shri CR Paatil, Hon'ble Minister (Jal Shakti) distributed flags in the Ministry on 14th August 2024. 725 flags were distributed in the department for hoisting the same at homes on 15th August, 2024. All employees/staff of the Department actively celebrated the Har Ghar Tiranga Programme and hoisted the flags at their homes on 15th August, 2024.



Har Ghar Tiranga celebrated on 15th August 2024

### 10.5 SPECIAL CAMPAIGN 4.0 FOR DISPOSAL OF PENDING MATTERS AND CLEANLINESS

As per the guidelines issued by Department of Administrative Reforms and Public Grievances (DAR&PG), the Special Campaign 4.0 for disposal of pendency and undertaking Swachhata campaign was implemented in the Department and all its organizations from 2nd October to 31st October, 2024.

The Special Campaign 4.0 was conducted in two phases i.e. Preparatory Phase from 16th – 30th September, 2024 and Main Phase from 2nd – 31st October, 2024. During the Preparatory Phase, pendency in different parameters of the Campaign (i.e. MP References, PMO References, Parliament Assurances, Public Grievances, PG Appeals, Inter-Ministerial References, References from the State Govts.) and sites for taking Cleanliness



Campaign, Scrap material and files to be weeded out were identified for disposal during implementation phase. AS. (Admin, IC&GW) was the Nodal Officer for the Campaign. 8 campaigns were targeted during the preparatory phase of the Special Campaign 4.0 covering all the buildings

where the offices of Department Secretariat are located.

During the Implementation Phase, all efforts were made to achieve the identified targets for pendency and undertaking Swachhta Campaigns.

Before



After



Special Campaign 4.0 for cleanliness

For most of the parameters, achievement of the Department was 90-100%. Details of achievements vis-à-vis

targets of the Campaign in respect of DoWR, RD & GR are tabulated below:-

Sl. No.	Parameters/Activities	Overall Targets	Achievements	Achievement (%)
1	Cleanliness Campaign Sites	434	434	100%
2	Inter-Ministerial References (Cabinet Note)	1	1	100%
3	Parliament Assurances	19	9	47%
4	MPs References	72	67	93%
5	PMO References	21	19	90%
6	Public Grievances	47	47	100%
7	Public Grievance Appeals	34	34	100%
8	Ease of Rule	15	15	100%
9	Review & Weeding out of Physical Files	16,734	16,734 of which 5,959 files Weeded out	100%
10	Review & Closing of E-Files	5,486	5,486 of which 857 files closed	100%

**Besides above:**

- Rs. 72,64,141/- revenue was generated through scrap disposal;
- 55,083 Sq ft area was freed through cleaning of sites/ scrap disposal;
- 3 PIB Statements were issued.
- 215 (65 tweets & 150 other posts) tweets/ posts were issued on Twitter/ Facebook / Instagram / YouTube.

## 10.6 C E L E B R A T I O N O F CONSTITUTION DAY - 2024

Constitution day was celebrated by the officers / officials on 26th November 2024 by reading the preamble of the Constitution of India in the conference hall of this department under chairmanship of Deputy Secretary (Gen. Admin).

## 10.7 SWACHHATA PAKHWADA - 2025

The fortnight will be celebrated from 16th March 2025 to 31st March 2025.

## 10.8 SWACHHATA HI SEVA -2024

This department along with all the organisations celebrated Swachhata Hi Seva 2024 (from 16th Sept to 1st Oct 2024). Secretariat (proper) organised a Health shivir for SafaiMitras and sensitise them about hygiene. Total of 6 cleanliness drives were done in different-2 offices of this dept.



Glimpse of Swachhata hi Seva 2024







# Chapter 11

Gender

Empowerment/Women

Welfare activities





# 11. Gender Empowerment / Women Welfare Activities

“Jal Nayak Bano”

Women play a vital role in water resource management. The right approach and steps taken towards water conservation, water use in domestic as well as field (agricultural/industrial) by women make considerable overall impact. The National Water Policy while emphasizing on participatory approach in water resources management, specifically provides for necessary legal and institutional changes to be made at various levels for the purpose of ensuring appropriate role for women.

Participatory Irrigation Management (PIM), which envisages involvement of end-users/farmers in all aspects and at all levels of irrigation management, functions through farmer's groups generally known as WUAs. DoWR, RD & GR, while issuing guidelines, specifically emphasized that the States consider representation of women in the Water Users' Associations (WUAs) at all levels. As a result, many States have amended their irrigation Acts or came out with specific Acts on participatory irrigation management. In addition to smooth implementation of micro irrigation system and agriculture related activities, this may lead to additional income generation and sustainability of women wing of WUAs.

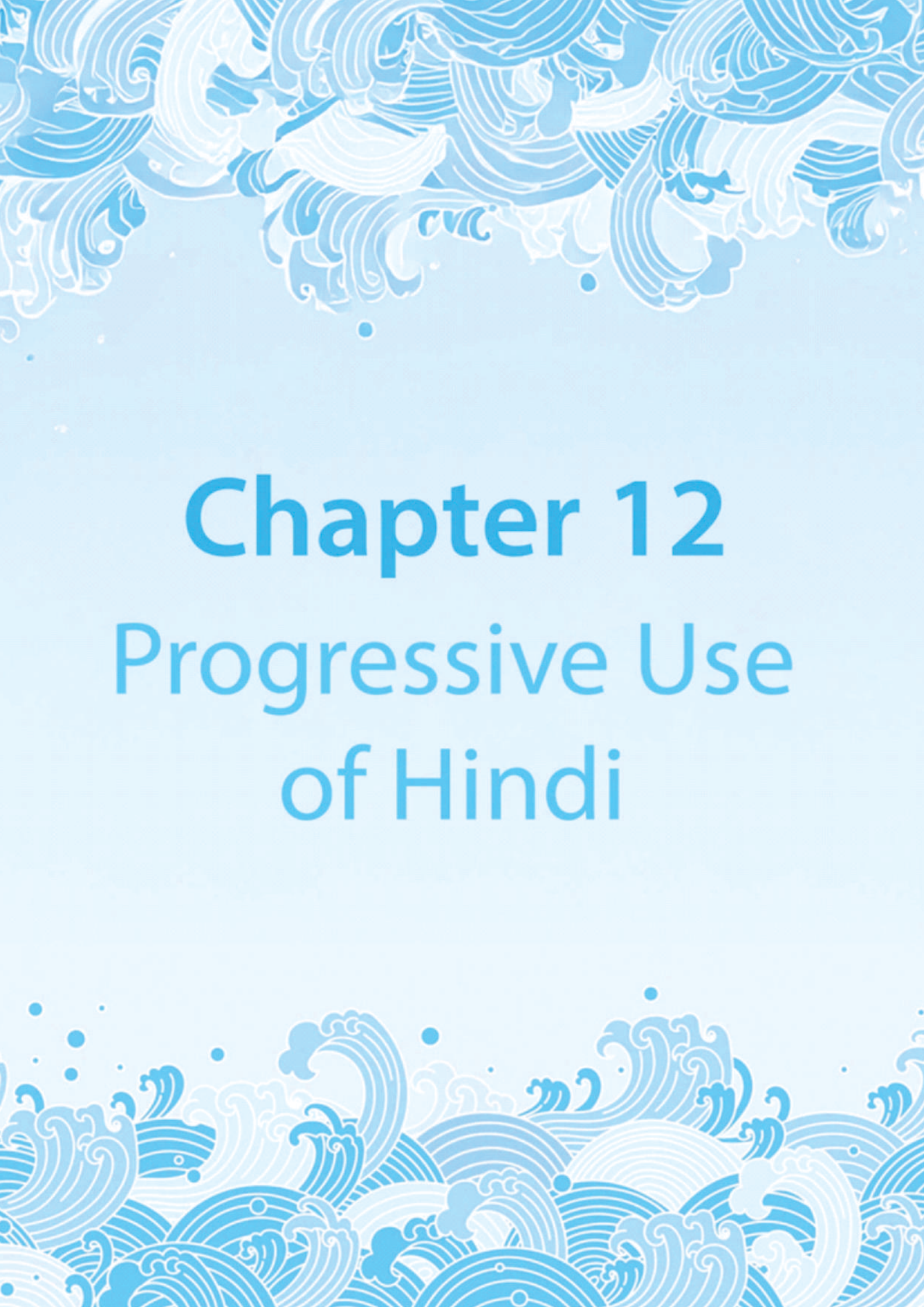
A Gender & Child Budgeting Cell has been established in the Department to promote gender sensitization and awareness. The Department is emphasizing participation of women in various training programmes being conducted in the Department and its field offices. A separate cell for women staff employees has also provided in the Staff Canteen of the Department.

Under Atal Bhujal Yojana, participation of women and vulnerable groups is being ensured through membership in committees and attendance in meetings. Numerous IEC activities have successfully encouraged women to actively engage in various activities such as meetings, trainings, and awareness programs aimed at understanding their roles and responsibilities in groundwater management. Through the trainings, women have been empowered in decision-making processes, particularly in the development of Water Security Plans. The consistent engagement of women in these meetings, workshops, and training sessions has significantly boosted their confidence levels, leading to an enhanced social status and increased respect within their communities.









# Chapter 12

## Progressive Use of Hindi



## 12. Progressive Use of Hindi

**“Jal Sanrakshan Kal Sanrakshan”**

Effective measures have been taken for progressive use of Hindi for official purposes in various sections and attached and subordinate offices of the Department during the year. Efforts were also made to ensure the compliance of various orders/instructions issued by the Department of Official Language. The Second Sub-Committee of Parliamentary Committee on Official Language inspected seven offices of the Department of Water Resources, River Development & Ganga Rejuvenation viz. (1) CWC, Delhi (2) WAPCOS Ltd., Gurugram (3) NPCC Ltd., Gurugram (4) CGWB, Faridabad, (5) CSMRS, Delhi (6) WAPCOS Ltd., Bhubaneswar and (7) NWDA, Bhubaneswar. 11 Regional Offices of seven offices mentioned above were inspected by Parliamentary Committee on Official Language during the current year. Apart from this, Official Language inspections are also conducted from time to time by the officials of the Hindi Section of the Ministry of Jal Shakti.

The Department has conducted three meetings of Official Language Implementation Committee. In these meetings, the Committee reviewed the progress made in the use of Hindi in the Department as well as in its various offices and pinpointed the shortfalls in relation to targets prescribed by Department of Official Language. Measures were also

suggested for the removal of shortfalls in the meeting.

Five officers of the DoWR, RD & GR participated in 4th 'Akhil Bhartiya Rajbhasha Sammelan' held at Bharat Mandapam, New Delhi from 14-15 September, 2024 by Deptt. of Official Language, Ministry of Home Affairs.

In order to encourage the use of Hindi in the official work, Hindi Fortnight was organized in the Department from 14.09.2024 to 29.09.2024. Before organizing the Hindi fortnight, all the offices and employees of Department of Water Resources, RD & GR were given a pledge to do their maximum work in the official language Hindi. During the fortnight, 9 competitions – 1. Hindi Essay 2. Questionnaire on Official Language Hindi (written) 3. Translation Competition (written) 4. Hindi Typing 5. Hindi Noting-Drafting 6. Hindi Debate 7. Hindi Essay competition (for MTS level candidates) 8. Hindi poetry recitation 9. Stenography competition were organized. Officers and employees of the Department enthusiastically participated in these competitions. First, Second and Third prizes of Rs. 5,000/-, Rs. 3,500/- and Rs. 2,500/- respectively were given to winners of each of these competitions. There was also provision of four consolation prizes of Rs. 1,500/- for each of these competitions.

Incentive schemes like 'Rajbhasha Vaijayanti Puraskar Yojana' and 'Incentive Scheme for doing work in Hindi' were implemented in the Department for promoting the implementation of official language policy. 'Rajbhasha Vaijayanti Purashkar Yojana' is for promoting Hindi

work in attached and subordinate organizations of the Department. Besides this "Moulik Pustak Lekhan Yojana" is also being implemented in the Ministry. Under the head, an amount of Rs. one lakh has been earmarked as prize money.



Second sub-committee review meeting of the Parliamentary Rajbhasha Committee





The background of the slide is a light blue color with a pattern of darker blue, wavy, concentric lines that create a sense of depth and movement, resembling a topographical map or a stylized ocean wave pattern.

# **Chapter 13**

## Staff Welfare





## 13. Staff Welfare

**“Jal Rakshak Bane”**

### 13.1 MONITORING OF RESERVATION FOR SC / ST / OBCS

The Scheduled Castes/Scheduled Tribes and Other Backward Classes (SCs/STs/OBCs) Cell also forms part of Administration Section. It renders secretarial assistance to Liaison Officer for SCs/STs and OBCs in discharging the functions on various matters relating to reservation for SCs/STs/OBCs in Government Services.

This Department is responsible for reservation of various categories in services only for Staff Car Drivers and MTS grade. Implementation of reservation in these posts to Scheduled Castes, Scheduled Tribes, OBCs, Ex-Servicemen and Divyangjan is followed as per Government rules. The post of MTS is filled through SSC. The vacancies in MTS grade are intimated to SSC.

Shri Binod Kumar, Director is Liaison Officer for OBC in respect of the Department (Secretariat). Shri Barjmohan Lal Meena, Deputy Secretary is appointed as Liaison Officer for SC/ST in respect of the Department (Secretariat).

### 13.2 COMPLAINTS COMMITTEE ON SEXUAL HARASSMENT OF WOMEN EMPLOYEES

In compliance with the guidelines

laid down by the Hon'ble Supreme Court of India on prevention of sexual harassment of women employees, a committee is functioning to look into the complaints of the women working in the Main Secretariat of the Department. The composition of the Committee is as below:

Sl. No.	Name & Designation (Shri/Smt./Ms)	Designated as
1.	Ms Sunita Yadav, Economic Adviser	Chairperson
2.	Shalini Gupta, Under Secretary (GWE)	Member
3.	Manish Uniyal, Under Secretray (Coordination)	Member
4.	Representative of HR Helpdesk Trust, NGO	Member

The Complaints Committee deemed to be the Inquiring Authority appointed by the Disciplinary Authority for the purpose of CCS (CCA) Rules, 1965 and its reports are treated as Inquiry Report. It examines the complaints made against sexual harassment by women employee(s) and, if necessary, conducts an enquiry. On completion of the same, the committee submits its findings to the Joint Secretary (Admn.), DoWR, RD & GR for further necessary action.

During the year ending 31st December, 2024, no complaint was received by the Committee.

### 13.3 REDRESSAL OF PUBLIC/ STAFF GRIEVANCES

During the period from 1st January, 2024 to 10th December, 2024, 2565 grievances were received in the Department from public through CPGRAMS and other channels. Besides, 125 grievances pending at the end of 31st December, 2023 were carried forward. Out of total 2,690 grievances, 2,588 grievances were settled during the above period. It has been the endeavor of the Department to resolve all the grievances within stipulated time and review meetings are being held at the level of Secretary (WR) on regular basis to review pendency and ensure timely disposal of grievances and appeals by Grievance Officers/ Appellate authorities.

A Grievances Redressal Cell has also been set up in DoWR, RD & GR to address the grievances of employees/officers working in various organizations under the Department.

The list of Public/Staff Grievance Officers in the Department its various organizations along with postal addresses is given at **Annexure-XI**.

### 13.4 TRAINING AND CAPACITY BUILDING

Department administers training to officers/officials of the Department in reputed Institutes including DoWR, RD & GR own training institutes (viz. NWA, Pune, NERIWALM, Tezpur and RGNGWTRI, Raipur) in different competencies related to Domain, Functional and Behavioral aspects. Officers are also given induction training upon joining the Department. Officials are also deputed on cadre based

Mid-Career Trainings at various levels/stages in their career. A Capacity Building Unit (CBU) has also been set up under the charge of Additional Secretary (A, IC & GW).

During FY 2024-25, all the officials of the Department have been on-boarded on i-GOT platform- the online capacity building platform developed by Capacity Building Commission under Mission Karmayogi- so that they can avail various training courses available on it. As per directions issued by DoPT, officials of the Department have also been advised to undergo trainings on i-GoT for atleast 4.5 hours in a month and the progress thereof is being monitored. As per portal, so far 466 courses have been completed at least once and daily time spent by users of this department in the portal is 8 hours. Five (05) training modules i.e. (i) Namami Gange: A Sustainable Model for River Rejuvenation, (ii) Overview of Water Resources of India (iii) Command Area Development and Participatory Irrigation Management (iv) Water Use Efficiency and (v) Atal Bhujal Yojana have also been developed by the department and uploaded on i-GOT platform for capacity building of officials of the Department and others in these Domain related areas.

Further, following a Capacity Need Assessment (CNA) of the Department done by Capacity Building Commission (CBC), Department has finalized its Annual Capacity Building Plan (ACBP), under the Mission Karmayogi. Under the plan different competency requirements in domain functional and behavioral aspects were identified along with courses required to bridge these competency gaps.

The plan is under implementation now. As a part of the plan, officials have been sent on trainings on 08 different subjects/topics viz. Public Procurement, Project Management, Management Development Program, Spring-shed Management, Ground Water Resources Estimation & Introduction to INGRES software, Overview of Water Resources Sector of India, Water Resources Management, Soft

Skills Development, Water Laws and River Valley Disputes.

Immersion programme in terms of field visits to different destinations have also been organized at various water structures like Dams, irrigation projects, flood management sites and Sewage Treatment Plant (STP) sites for giving requisite field exposure to officials.







# Chapter 14

## Transparency and Vigilance





# 14. Transparency & Vigilance

“Jal Pradushan Ko Naa Kahen”

## 14.1 TRANSPARENCY

### THE RIGHT TO INFORMATION ACT, 2005

The Right to Information Act, 2005 came into effect from 12.10.2005. As provided under section 4(1)(b) of the Act, information on mandatory disclosure in respect of Department (Sectt.) and by all organizations of the department were uploaded on the Department's website. The disclosure was also got audited through one of the Training Institutes (NWA Pune) of the Department as per CIC instructions. Information of Central Public Information Officers (CPIOs) in terms of section 5 (1) and (2) of the said Act was hosted on the website of the Department and of concerned organizations.

The Coordination Section of Department of Water Resources, RD &GR, has been assigned the task of accepting applications and the fees under the RTI Act. During the period from 01.01.2024 to 10.12.2024, total 1,279 RTI applications and 56 RTI appeals were received which were handled by concerned Central Public Information Officers/ First Appellate Authorities as per provisions of the Act.

The details of Central Public Information Officers / Appellate Authorities in the various Wings/Sections of the Department are given at Annexure-XII.

## 14.2 VIGILANCE

The Vigilance matters relating to this Department and its organizations are handled by the Vigilance Division, which functions under the guidance, supervision and control of a part time Chief Vigilance Officer of the level of Joint Secretary and above assisted by a Director and the Vigilance Section. Various aspects pertaining to vigilance cases of all the employees of the Ministry (proper) and all Group A and retired officers of the attached/subordinate offices as well as Group-A officers of other organizations under the Ministry, including Board level officers of PSUs are dealt with by the Division.

The Vigilance Division functions as a link between the Ministry and the Central Vigilance Commission (CVC) and other Authorities in the matters pertaining to vigilance. The Division tenders advice, wherever required, on vigilance matters, to the Attached and Subordinate Offices, PSUs, Statutory Bodies etc. under the administrative control of the Ministry, in consultation with CVC and other agencies/ departments.

The Division monitors the disciplinary cases and related matters of the organizations under the Ministry through periodical returns prescribed by CVC, DoP&T, etc. The Division prepares the

“List of officers of Doubtful Integrity” and the “Agreed List” in consultation with CBI.

This year, Vigilance Awareness Week was observed by the Vigilance Division from 28th October, 2024 to 3rd November, 2024. An essay competition was held which received wide participation from the employees.

Eight preventive vigilance inspections of organizations under the purview of the Department have been completed during the year 2024-25 have

been completed with a view to check various irregularities and identify corruption prone areas.

The Vigilance Division is also responsible for calling for the Annual Immovable Property Returns of all Group 'A', 'B' and 'C' Staff and monitoring them. The following statistics may be appended to the information to be sent for annual report (except the remarks):

**Performance Statistics (01.04.2024 to 31.12.2024):**

Category	Count
Number of Complaints received	155
Number of Complaints disposed off	140
Number of cases wherein CVC consultation sought	1
Number of cases submitted to UPSC	1
Number of cases where penalty imposed	NIL

One CVOs and Three VOs with consultation of CVC were appointed in the organizations.





# **Chapter 15**

## Appointment of Persons with Special Needs





## 15. Appointment of Persons with Special Needs

**“Jal Bachana Hamare Haath Mein Hai”**

Monitoring of the recruitment of persons with Special Needs is being done to ensure fulfillment of prescribed percentage of reservation for the category by the Ministry as well as various organizations under it. Periodic reports on the progress made are being sent regularly to the Ministry of Social Justice & Empowerment. The Persons with Special Needs are given facilities, concessions and relaxations at the time of test/interview as per the rules on the subject matter.

Administration Section is dealing with reservation of Persons with Disabilities (Divyangjan) in MTS Post. The vacancies in MTS grade are filled through SSC. As on 31.12.2024 the total strength in MTS grade was 58 out of which three Persons are Persons with Disabilities.

The relevant reservation rosters as prescribed by the Government are also maintained for planning the reservation of Persons with Special Needs. Shri B.L. Meena, DS is as Liaison Officer for Persons with Disabilities (Divyangjan) in respect of the Department (Secretariat).





# ANNEXURES

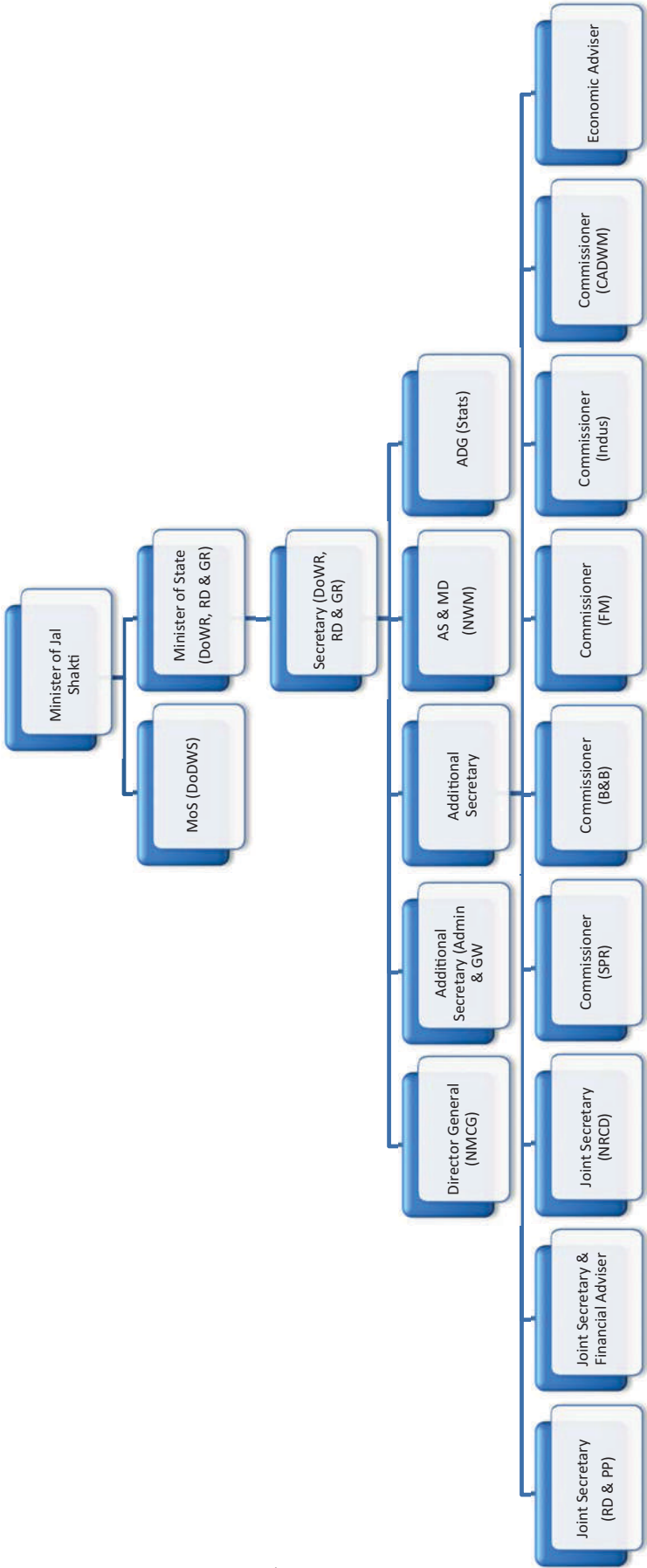






ANNEXURE-I

ORGANIZATION CHART OF DEPARTMENT OF WATER RESOURCES, RIVER DEVELOPMENT & GANGA REJUVENATION



**ANNEXURE -II**

**STAFF IN POSITION IN THE DEPARTMENT OF  
WATER RESOURCES, RIVER DEVELOPMENT &  
GANGA REJUVENATION**

AS ON 31.12.2024

Group	Total Employees in position	Representation of SC/ST/OBC				PH
		SC	ST	OBC	Other	
A	117	12	08	17	80	1
B	155	16	11	63	65	0
C	138	39	10	50	39	3
<b>Total</b>	<b>410</b>	<b>67</b>	<b>29</b>	<b>130</b>	<b>184</b>	<b>5</b>

**ANNEXURE – III**

**LIST OF NAMES AND ADDRESSES OF SENIOR  
OFFICERS & HEADS OF ORGANISATIONS UNDER  
THE DEPARTMENT OF WATER RESOURCES,  
RIVER DEVELOPMENT & GANGA REJUVENATION**

<b>S. No.</b>	<b>Name of the Organisation</b>	<b>Head of the Organisation/ Senior Officer</b>
<b>1.</b>	Department of Water Resources, RD & GR, Room No.412, 4 <sup>th</sup> Floor, Shram Shakti Bhavan, Rafi Marg, New Delhi.	Smt. Debashree Mukherjee, Secretary, Tel. No. 011-23710305/23715919 Fax.011-23731553.
<b>2.</b>	Department of Water Resources, RD & GR, Room No.404, 4 <sup>th</sup> Floor, Shram Shakti Bhavan, Rafi Marg, New Delhi.	Shri Rakesh Kumar Verma, Additional Secretary, Tel.No. 011-23714609 Fax. 011-23716894
<b>3.</b>	Department of Water Resources, RD & GR, Room No.6, 2 <sup>nd</sup> Floor, 'B' wing, Lok Nayak Bhawan,Khan Market, New Delhi.	Shri Ajay Bakshi, Additional Director General (Stat.) Tel. No. 011-24691080 Fax. 011- 24691080
<b>4.</b>	Department of Water Resources, RD & GR, Room No.403, 4 <sup>th</sup> Floor, Shram Shakti Bhavan, Rafi Marg, New Delhi.	Shri Subodh Yadav, Joint Secretary (Admn., IC & GW), Tel. No. 011-23710343 Fax. 011-23730719
<b>5.</b>	Department of Water Resources, RD & GR, Room No. 406, 4 <sup>th</sup> Floor, Shram Shakti Bhavan, Rafi Marg, New Delhi -110001	Shri Anand Mohan, Joint Secretary (RD&PP), Tel. No. 011-23725477 Fax. 011-24369170
<b>6.</b>	Department of Water Resources, RD & GR, Room No. 401, 4 <sup>th</sup> Floor, Shram Shakti Bhavan, Rafi Marg, New Delhi -110001	Smt. Richa Misra, Joint Secretary & Financial Adviser, Tel. No. 011-23710297 Fax. 011-23710297
<b>7.</b>	Department of Water Resources, RD & GR, Room No.411, 4 <sup>th</sup> Floor, Shram Shakti Bhavan, Rafi Marg, New Delhi -110001	Shri Parveen Kumar, Commissioner (SPR), Tel. No.011-23710107
<b>8.</b>	Department of Water Resources, RD & GR, Room No.236, 2 <sup>nd</sup> Floor, 'B'wing, Krishi Bhavan, Rafi Marg, New Delhi-110001	Shri Anuj Kanwal, Commissioner (CADWM) Tel. No. 011-23382256

S. No.	Name of the Organisation	Head of the Organisation/ Senior Officer
9.	Department of Water Resources, RD & GR, Room No. 827, 8 <sup>th</sup> Floor, C.G.O. Complex, Lodhi Road, New Delhi-110003	Shri Sharad Chandra Commissioner (FM) Tel. No. 011-24368238 Fax. 011-24362780
10.	Department of Water Resources, RD & GR, Room No. 204, 2 <sup>nd</sup> Floor, C.G.O. Complex, Lodhi Road, New Delhi-110003	Shri S.K. Sinha, Commissioner (B&B) Tel. No. 011-24364724.
11.	Department of Water Resources, RD & GR, Room No. 814, 8 <sup>th</sup> Floor, C.G.O. Complex, Lodhi Road, New Delhi-110003	Shri Darpan Talwar Commissioner (Indus) Tel. No.011-24361540 Fax. 011-24361540
12.	Department of Water Resources, RD & GR, Room No. 826, 8 <sup>th</sup> Floor, Block-11, C.G.O. Complex, Lodhi Road, New Delhi-110003	Smt. Sunita Yadav, Economic Adviser Tel. No. 011-24368941
13.	Department of Water Resources, RD & GR, 2 <sup>nd</sup> Floor, B wing, Lok Nayak Bhawan, Khan Market, New Delhi-110003	Smt. Priyanka Kulshreshtha, Deputy Director General Tel. No. 011-24699496
14.	Department of Water Resources, RD & GR, National River Conservation Directorate, Antyodaya Bhawan, C.G.O. Complex, Lodhi Road, New Delhi- 110003	Shri Pradeep Kumar Agrawal, Joint Secretary (NRCD) Tel. No.011-24365020 Fax. 011-24369382
<b>Attached Offices</b>		
15.	Central Water Commission, Room No. 326, Sewa Bhawan, R. K. Puram, New Delhi-110022	Shri Rakesh Kumar Verma, Chairman, Tel. No.011-26715351, Fax: 011-26108614.
16.	Central Soil and Materials Research Station, Room No. 111, Hauz Khas, New Delhi-110016	Dr. R Chitra, Director, Tel. No. 011-26961894/ 26967985 Fax. 011-26967985
<b>Subordinate Offices</b>		
17.	Farakka Barrage Project, P.O. Farakka Barrage, Distt. Murshidabad-742212, West Bengal	Shri R. D. Deshpande, General Manager, Tel. No. 03485-253644, Fax. 03485-253608.

S. No.	Name of the Organisation	Head of the Organisation/ Senior Officer
18.	Ganga Flood Control Commission, Sinchai Bhawan, 3 <sup>rd</sup> floor, Patna-800015	Shri Gulsan Raj Chairman, Tel. No. 0612-2217294 Fax. 0612-2217960
19.	Central Water and Power Research Station, P.O. Khadakwasla, Pune-411024	Shri. R. S. Kankara, Director, Tel. No.020-24380552, Fax. 020-24381004.
20.	Central Ground Water Board, Bhujal Bhawan, Faridabad-121001.	Shri Sunil Kumar,Chairman, Tel. No. 0129-2477101, Fax. 0129-2477200.
21.	Bansagar Control Board, Bansagar Colony, Rewa, Madhya Pradesh, 486001.	Shri Kayum Mohmed Secretary, Tel. No.07662-226318 Fax. 07662-242433
22.	Upper Yamuna River Board, 201, 'S' ,Sewa Bhawan,R.K.Puram, New Delhi-110016	Shri Naveen Kumar, Chairman, Tel. No. 011-26108590 Fax. 011-26195289
<b>Public Sector Undertakings</b>		
23.	Water and Power Consultancy Services (India) Limited, 5 <sup>th</sup> Floor, 'Kailash', 26, Kasturba Gandhi Marg, New Delhi.	Shri R. K. Agrawal, Chairman & MD, Tel. No. 011-23313881 Fax. 011-23314924
24.	National Projects Construction Corporation Limited, Plot No.148, Sector-44, Gurugram, Haryana-122003.	Shri R. K. Agrawal, Chairman & MD, Tel. No.0124-2385219, Fax. 0124-2385219.
<b>Registered Societies/ Autonomous Bodies/ Statutory Bodies etc.</b>		
25.	National Mission for Clean Ganga, Department of Water Resources, RD & GR, 1 <sup>st</sup> Floor, MDCNS Building, India Gate, New Delhi-110002	Shri Rajeev Kumar Mital. Director General (NMCG) Tel. No. 011-23049528
26.	National Water Mission, 2 <sup>nd</sup> Floor, Block-3, C.G.O.Complex, Lodhi Road, New Delhi-110003	Smt. Archana Varma, Additional Secretary & Mission Director, Tel. No. 011-24365200
27.	National Institute of Hydrology, Jal Vigyan Bhawan, Roorkee, Uttarakhand-247667.	Dr. M. K. Goel, Director, Tel. No. 01332-272106 Fax. 01332-272123/273976



S. No.	Name of the Organisation	Head of the Organisation/ Senior Officer
28.	National Water Development Agency, 18-20, Community Centre, Saket, New Delhi -110017	Shri Baleshwar Thakur Director General, Tel. No. 26519164 Fax. 26513846
29.	North Eastern Regional Institute of Water and Land Management, Dolabari, Tezpur, Sonitpur, Assam-784027	Dr. Pradip Kumar Bora, Director, Tel. No. 03712-291069, Fax. 03712-268007
30.	Narmada Control Authority, Narmada Sadan, Sec-B, Scheme No.74-C, Vijay Nagar, Indore-452010	Shri Ashok Kumar Thakur, Executive Member & HoD, Tel. No. 0731- 2557276, Fax. 0731-2559888.
31.	Brahmaputra Board, Basistha, Guwahati, Assam-781029	Shri Ranbir Singh ,Chairman, Tel. No.0361-2301099 Fax. 0361-2301099
32.	Betwa River Board, Nandanpura, Shivpuri Highway, Jhansi-284003	Shri B. S. Mohaniya, Secretary, Tele no. 0510-2480183 fax. No. 0510-2480183
33.	Tungabhadra Board, Tungabhadra Dam, Taluk: Hospet, Distt: Bellary, Karntaka -583225	Shri D.M. Raipure, Chairman, Tel. No. 040-23301858 Fax. 040-29808742
34.	Krishna River Management Board, Jalasoudha, Errum Manzil, Hyderabad, 500082.	Shri Atul Jain, Chairman, Tel. No. 040-23301659.
35.	Godavari River Management Board, 5 <sup>th</sup> Floor, Jalasoudha, Errum Manzil, Hyderabad-500082.	Dr. Mukesh Kumar Sinha, Chairman, Tel. No. 040-23313163 Fax. 040-23313162
36.	National Water Informatics Center, 4th Floor, South Wing, Sewa Bhawan, R.K. Puram, Sector-1, New Delhi-110066.	Shri Raj Kumar Mishra Director (JS Level) Tel-011-26173283, 29583361

## ANNEXURE-IV

## LIST OF PRIORITY PROJECTS (AIBP WORKS) REPORTED COMPLETED/ALMOST COMPLETED

S. No.	State	Name of the Project	Ultimate Irrigation Potential (in Th.Ha.)
1	Andhra Pradesh	Maddigedda	1.42
2	Assam	Champamati	25.00
3		Dhansiri	86.37
4	Chhattisgarh	Maniyari Tank	14.52
5		Kharung	10.30
6	Jammu & Kashmir	Rajpora Lift	2.43
7		Restoration & Mod. Of Main Ravi Canal	50.75
8		Tral Lift	6.00
9	Karnataka	Sri Rameswar Irrigation	13.80
10		Bhima LIS	24.29
		Narayanpur LBC	105.00
11		Karanja	29.23
12	Madhya Pradesh	Singhpur Project	10.20
13		Mahuar Project	13.78
14		Sagad Project	17.06
15		SindhProject Phase-II	162.10
16		Indira Sagar Project Canal Phase-I&II (km.0 to km.142)	62.20
17		Omkareshwar project Canal Phase-IV ( <i>OSP lift</i> )	54.63
18		Indira Sagar Project Canal Phase-V ( <i>Khargone Lift</i> )	33.14
19		Bansagar Unit 2	154.54
20		Barriyarpur LBC	43.85
21		Sanjaysagar(Bah)Project	17.81
22		Bargidiversion Project Ph-I	21.19

S. No.	State	Name of the Project	Ultimate Irrigation Potential (in Th. Ha.)
23		Mahi Project	33.75
24		Mahan Project	19.74
25		Omkareshwar Project Canal Phase-II	19.578
26		Omkareshwar Project Canal Phase-III	48.592
27		Indira Sagar Project Canal Phase-III	20.7
28		Indira Sagar Project Canal Phase-IV	19.6
29	Maharashtra	Bawanthadi (IS)	27.71
30		Lower Panzara	6.79
31		Dongargaon	2.77
32		Warna	54.75
33		Nandur Madhmeshwar Ph-II	20.50
34		Upper Kundalika	2.80
35		Lower Dudhna	44.48
36		Khadakpurna	23.86
37		Dhom Balakwadi	18.10
38		Wang	7.07
		Gadnadi	3.47
		Krishna Koyna LIS	104.17
39		Tarali	14.28
40		Tillari	6.57
41		Arjuna	5.7
42		Sangola Branch canal	11.29
43	Manipur	Dolaithabi	7.54
44	Odisha	Upper Indravati(KBK)	85.95
45		Rukura-Tribal	7.65
46		Ret	8.50
47		Telengiri	13.83
48		Lower Indra	35.87
49	Punjab	Kandi Canal Extension (Ph.II)	23.33
50		Rehabilitation of I <sup>st</sup> Patiala Feeder and Kotla Branch Project	68.62

S. No.	State	Name of the Project	Ultimate Irrigation Potential (in Th. Ha.)
51	Rajasthan	Narmada Canal	245.88
52		Mod. Of Gang Canal	69.69
53	Telangana	Gollavagu Project	3.85
54		Rallivagu project	2.43
55		Mathadivagu Project	3.44
56		Sri Komaram Bheem project	9.92
57	Uttar Pradesh	Bansagar Canal	150.13
		Saryu Nahar Paroyojna	1404.00
58	Goa	Tillari	21.055

**ANNEXURE -V****CENTRAL ASSISTANCE & STATE SHARE RELEASED FOR  
AIBP WORKS OF 99 PRIORITY PROJECTS UNDER PMKSY****(Rs. in crore)**

Sl. No.	State	Releases under PMKSY-AIBP					
		2016-17 to 2022-23		2023-24		Total 2016-17 to 2024-25	
		CA Released	State Share release through NABARD	CA Released	State Share release through NABARD	CA Released	State Share release through NABARD
1	Andhra Pradesh	22.63	489.34	0.00	0.00	22.63	489.34
2	Assam	0.00	108.10	0.00	7.91	0	116.01
3	Bihar	110.24	0.00	0.00	0.00	110.24	0
4	Chhattisgarh	46.05	0.00	3.57	0.00	49.62	0
5	Goa	0.00	209.94	0.00	0.00	0	209.94
6	Gujarat	4501.39	3611.03	32.40	0.00	4533.79	3611.03
7	Jharkhand	756.73	518.10	0.00	250.00	756.73	768.1
8	Karnataka	1190.05	0.00	0.00	0.00	1190.05	0
9	Kerala	0.00	0.00	0.00	0.00	0	0
10	Madhya Pradesh	756.15	1296.60	40.62	46.5	796.77	1343.1
11	Maharashtra	2265.76	14279.58	240.15	1730.11	2505.91	16009.69
12	Manipur	240.11	335.12	0.00	0.00	240.11	335.12
13	Odisha	1208.86	3755.98	0.00	502.33	1208.86	4258.31
14	Punjab	52.42	0.00	0.00	0.00	52.42	0
15	Rajasthan	458.56	259.01	0.00	0.00	458.56	259.01
16	Telangana	981.49	0.00	0.00	0.00	981.49	0
17	Uttar Pradesh	1421.82	6431.18	0.00	0.00	1421.82	6431.18
18	UT of J&K	39.71	0.00	0.00	0.00	39.71	0
19	UT of Ladakh	2.98	0.00	0.00	0.00	2.98	0
	<b>Total</b>	<b>14054.95</b>	<b>31293.98</b>	<b>316.74</b>	<b>2536.85</b>	<b>14371.7</b>	<b>33830.8</b>



**ANNEXURE -V (CONTINUED)****CENTRAL ASSISTANCE RELEASED FOR AIBP WORKS  
OF NEWLY INCLUDED PROJECTS UNDER PMKSY**

S. No.	State	Project Name	CA released till March 2023 (Rs. in crore)	CA released during 2023-24 (Rs. in crore)	CA released till March 2024 (Rs. in crore)
1	Maharashtra	Jihe Kathapur Project	39.02	26.81	65.84
2	Himachal Pradesh	Nadaun Project	2.25	0	2.25
3		Renukaji dam Project*	1,495.50	414.46	1909.96
4	Rajasthan	Parwan multipurpose project (National Project)	41.43	154.88	196.31
5	TamilNadu	Kannadian channel	34.74	0	34.74
6	Assam	ERM of Sukla irrigation project	41.98	0	41.98
7	Manipur	ERM of Loktak LIS (PhI)	24.88	5.91	30.79
8	Uttarakhand	Lakhwar multipurpose project (National Project)	38.58	165.56	204.14
9	Uttarakhand	Jamrani Dam multipurpose project	0	0	0
10	Maharashtra	Bodwad Parisar Sinchan Yojana, Stage I	0	0	0
11.	Bihar & Jharkhand	North Koel	721.23	0	721.23

\*Rs. 446.96 crore were released to Renukaji dam Project during 2016-17 in pursuant to Supreme Court order for enhanced land compensation.

# North Koel was included in 2021-22 for funding under PMKSY.

## ANNEXURE -VI

## CENTRAL ASSISTANCE & STATE SHARE RELEASED FOR CADWM WORKS OF PRIORITY PROJECTS UNDER PMKSY (AS ON 30.11.2024)

(Rs. in crore)

Sl. No.	State	Total (2016-17 to 2024-25)	
		CA released	State Share release through NABARD
1	AndhraPradesh	69.18	0.00
2	Assam	7.55	0.00
3	Bihar	35.82	0.00
4	Chhattisgarh	28.58	0.00
5	Goa	3.84	0.00
6	Gujarat	1,719.15	0.00
7	Jammu & Kashmir *	3.57	0.00
8	Jharkhand	0.00	0.00
9	Karnataka	78.26	0.00
10	Kerala	2.69	0.00
11	MadhyaPradesh	361.36	361.36
12	Maharashtra	279.495	112.07
13	Manipur	9.822	34.900
14	Odisha	131.964	347.01
15	Punjab	82.08	0.00
16	Rajasthan	155.55	164.05
17	Telangana	36.34	0.00
18	Uttar Pradesh	156.00	0.00
	<b>Total</b>	3128.794	1019.39

## ANNEXURE -VII

## STATE/UT - WISE DETAILS OF CENTRAL ASSISTANCE RELEASED UNDER FMP/FM COMPONENT OF FMBAP

(Rs. in crore)

Sl. No.	State	Funds released under FMP							2023-24	2024-25	Total funds released
		During 11 <sup>th</sup> and 12 <sup>th</sup> Plan	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23			
1	Arunachal Pradesh	169.60	21.18	--	--	--	0			22.50	213.28
2	Assam	813.75	245.49	142.12	85.03	--	14.08	248.65	7.2012		1557.04
3	Bihar	907.82	--	16.58	--	--					924.40
4	Chhattisgarh	19.32	--	--	--	--					19.32
5	Goa	11.98	--	--	--	--					11.98
6	Gujarat	2.00	--	--	--	--					2.00
7	Haryana	46.91	--	--	--	--					46.91
8	Himachal Pradesh	387.85	87.50	162.60	176.41	11.87	6.35		30.16		862.74
9	Jammu & Kashmir	422.52	110.40	52.20	92.74	10.14	116.79		0.486		805.27
10	Jharkhand	22.71	--	--	--	--					22.71
11	Karnataka	23.80	--	--	--	--					23.80
12	Kerala	118.90	19.05	--	--	--					137.95
13	Manipur	90.70	--	--	--	--	52.38	76.63	62		281.71
14	Meghalaya	3.81	--	--	--	--					3.81
15	Mizoram	16.41	0.48	--	--	--					16.88
16	Nagaland	83.12	--	10.84	--	--			0.86478		94.83
17	Odisha	101.12	--	--	--	15.79	2.51				119.42
18	Puducherry	7.50	--	--	--	--					7.50
19	Punjab	40.43	--	--	--	--					40.43
20	Sikkim	91.84	--	--	--	--					91.84
21	Tamil Nadu	59.82	--	--	--	--					59.82
22	Tripura	23.62	--	--	--	--					23.62
23	Uttar Pradesh	401.91	13.55	15.58	39.15	--					470.19
24	Uttarakhand	203.61	--	4.63	35.58	--	2.77				246.59
25	West Bengal	802.01	65.03	23.65	117.12	--	44.15				1051.96
	<b>Total</b>	<b>4,873.07</b>	<b>562.67</b>	<b>428.20</b>	<b>546.01</b>	<b>37.79</b>	<b>239.03</b>	<b>325.28</b>	<b>100.71</b>	<b>22.50</b>	<b>7136.00</b>

## ANNEXURE -VIII

**STATE-WISE AREA PROTECTED AND POPULATION  
BENEFITTED UNDER FLOOD MANAGEMENT PROGRAMME  
DURING 11<sup>TH</sup> & 12<sup>TH</sup> PLAN**

Sl. No	State	Projects (in number)	Area protected (hectares)	Population benefitted (number)
1	Arunachal Pradesh	21	47,617	2,01,209
2	Assam	111	736495	17452397
3	Bihar	42	28,67,117	2,23,45,566
4	Chhattisgarh	3	100	35,596
5	Goa	2	300	27,000
6	Gujarat	2	320	46,400
7	Haryana	1	1,41,279	10,53,441
8	Himachal Pradesh	6	14,462	2,75,694
9	Jammu & Kashmir	24	2,30918	15,39693
10	Jharkhand	3	1276	62000
11	Karnataka	2	17700	196500
12	Kerala	2	18	80000
13	Manipur	22	3841	10756
14	Mizoram	1	40490	201640
15	Nagaland	14	0	0
16	Odisha	66	136	312
17	Punjab	4	2463	163000
18	Sikkim	28	163242	992250
19	Tamil Nadu	5	0	0
20	Tripura	11	11383	55500
21	Uttar Pradesh	24	48728	206534
22	Uttarakhand	18	319517	2017103
23	West Bengal	15	2536	88480
	<b>Total</b>	<b>427</b>	<b>5044503</b>	<b>53686952</b>

## ANNEXURE-IX

## 'SURVEY & INVESTIGATION' AND PREPARATION OF DETAILED PROJECT REPORTS OF MULTIPURPOSE PROJECTS BY BRAHMAPUTRA BOARD

Sl. No.	Name of Project	Basin	Installed Capacity (MW)	Status
<b>A. Completed DPR</b>				
1.	Dihang (Siang) Dam Project	Brahmaputra	20,000	Single-stage project DPR was completed in 1983 by the Board. Handed over to NHPC under 3 stage development in 2000
2.	Subansiri Project	Brahmaputra	4,800	Single stage project DPR was completed in 1983 by the Board. Handed over to NHPC under 3 stage development in 2000
3.	Tipaimukh Project	Barak	1,500	DPR completed in 1995. Handed over to NEEPCO in 1999
4.	Bairabi Dam Project	Barak	75	Handed over to Govt. of Mizoram in 2000
5.	Pagladiya Project	Brahmaputra	3	Implementation by Brahmaputra Board halted due to inability to provide land for construction by Government of Assam.
<b>B. DPR Partially completed</b>				
1.	Dibang Dam Project	Brahmaputra	4,900	S & I Executed by the Board and DPR partially completed. Handed over to NHPC in 2006 and under execution by NHPC.
2.	Lohit Dam Project	Brahmaputra	3,000	S & I completed. Project entrusted to private developer by Govt. of Arunachal Pradesh in 2009.
3.	Kynshi Stage-I Dam Project	Others	450	S & I was under final stage of completion.
4.	Kynshi Stage-II Dam Project	Others	450	Govt of Meghalaya assigned the project to private developers in 2011.



**Status of Projects currently under S & I and DPR preparation is as under:**

Sl. No.	Name of Project	State	Basin	Installed Capacity (MW)	Status
1.	Kulsi Multi-Purpose Project (Identified as National Project)	Assam & Meghalaya	Brahmaputra	55	DPR completed.  Government of Assam vide letter No. PEL.227/2021/5dt. 14.03.2022 requested to formally hand over the project DPR for implementation funded by Government of Assam. Government of Meghalaya vide letter No.POL 146/2021/104 dt. 23.02.2022 requested to keep in abeyance the execution till issue of boundary dispute is settled with Govt. of Assam.
2.	Noa-Dehing Dam Project (Identified as National Project)	Arunachal Pradesh	Brahmaputra	72	DPR completed.  Govt. Of Arunachal Pradesh has taken over the project.
3.	Simsang Dam Project	Meghalaya	Others	65	Work for preparation of DPRs is entrusted to WAPCOS and is in progress.
4.	Jiadhal Dam Project	Arunachal Pradesh	Brahmaputra	50	
5.	Killing Dam Project	Assam & Meghalaya	Brahmaputra	85	Survey & investigation halted
6.	Preparation of Detailed Report to check flash flood and erosion in BTC area of Assam	Assam	Brahmaputra	--	All 7 drafts DPRs have been submitted by WAPCOS. Water Resources Department, BTC has raised a few observations which are currently being attended by WAPCOS Ltd.

## ANNEXURE-X

## BUDGET AT A GLANCE

(Rs. in crore)

Scheme/ Office/ Component	Actuals 2023-24	BE 2024-25	RE 2024-25	Exp. Upto 31.12.2024 (Tentative)
<b>A. Central Sector Schemes</b>				
Farakka Barrage Project	41.59	80.00	59.00	45.76
DRIP	53.62	46.98	42.28	30.56
National Ganga Plan	1922.32	3345.70	3200.00	2800.24
Additional transfer to AIDF	800.00	-----	-----	-----
River Basin Management	63.59	154.79	143.00	98.15
Development of Water Resources Information System	168.67	115.00	170.00	91.96
Ground Water Management & Regulation	202.31	325.00	240.00	87.62
National Hydrology Project	321.26	661.20	492.80	212.31
R&D and NWM	42.67	67.06	45.00	26.53
Atal Bhujal Yojana	1738.56	1778.00	600.00	76.49
<b>Central Sector Schemes (Total)(A)</b>	<b>5354.59</b>	<b>65373.73</b>	<b>4792.08</b>	<b>3469.62</b>
<b>B. Centrally Sponsored Schemes</b>				
PMKSY				
HKKP				
a. Debt Servicing	2768.17	3749.80	3880.85	2877.17
b. SMI & RRR	811.20	600.00	598.87	234.53
c. GW	0	0.00	1.13	0.00
(ii) AIBP and CADWM				
AIBP and National/ Special Projects	1333.85	2500.00	2040.00	667.55

Scheme/ Office/ Component	Actuals 2023-24	BE 2024-25	RE 2024-25	Exp. Upto 31.12.2024 (Tentative)
CADWM	174.39	1400.00	100.00	0.00
FMBAP	198.30	449.57	400.00	37.61
Irrigation Census	18.06	40.00	20.00	5.80
Special Package for Marathwada, Vidarbha and other drought prone areas of Maharashtra	699.99	600.00	400.00	71.55
National River Conversation Plan- Others Basins	346.15	592.11	591.12	178.94
Interlinking of river	1390.73	4000.00	2000.00	1375.58
Additional transfer to AIDF	3200.00	---	----	----
Polavaram Irrigation Project	-----	----	5512.50	2807.69
Centrally Sponsored Schemes (Total ( B)	11940.84	13431.48	15544.47	8256.42
Scheme Total (A+B)	17295.43	20005.21	20336.55	11726.04
<b>Establishment</b>				
Secretariat-Economic Services	255.44	275.00	196.29	109.51
<b>Attached, Subordinate &amp; Other offices</b>				
Central Water Commission	391.53	391.33	440.54	331.09
Central Soil & Material Research Station	29.67	30.00	30.50	23.15
Central Water & Power Research Station	72.15	75.00	84.00	73.91
NDSA	3.78	25.00	9.41	4.29
Bansagar Control Board	0.02	0.30	0.06	0.01
Upper Yamuna river Board	3.53	6.26	2.50	1.47
Central Ground Water Board	287.73	310.00	313.00	239.21

<b>Scheme/ Office/ Component</b>	<b>Actuals 2023-24</b>	<b>BE 2024-25</b>	<b>RE 2024-25</b>	<b>Exp. Upto 31.12.2024 (Tentative)</b>
National institute of Hydrology	48.98	50.00	55.00	39.25
National Water Information Centre	3.30	4.00	4.00	2.76
National River conservation Directorate	7.24	9.00	9.00	5.84
NERIWALM	23.43	24.00	23.00	18.85
Brahmaputra Board	52.09	50.00	63.00	37.50
NWDA	50.99	50.00	50.00	34.83
NWA	11.10	14.00	9.03	6.17
RGI	2.43	4.00	3.00	1.64
PPA	----	---	12.00	0.00
<b>Sub Total ©</b>	<b>1243.41</b>	<b>1317.89</b>	<b>1304.33</b>	<b>929.48</b>
<b>Grand Total (A+B+C)</b>	<b>1853.84</b>	<b>21323.10</b>	<b>21640.88</b>	<b>12655.52</b>

**ANNEXURE-XI**

**LIST OF PUBLIC/STAFF GRIEVANCE OFFICERS IN THE  
DEPARTMENT OF WATER RESOURCES, RIVER  
DEVELOPMENT & GANGA REJUVENATION AND ITS VARIOUS  
ORGANISATIONS ALONG WITH POSTAL ADDRESSES**

Sl. No.	Name of the Organization	Address	Name & Designation of P.g./ S.g. Officer
1.	Department of Water Resources, River Development and Ganga Rejuvenation	Room No. 01, 'B' Wing, Shastri Bhavan, New Delhi - 110001 (Tel No. 011-23074005)	Shri G.S. Panwar Deputy Secretary (Coord.) Email Id: dscoord-mowr@nic.in
2.	Narmada Control Authority	Room No. 221, Narmada Sadan, Sector-B, Scheme No. 74, Vijay Nagar, Indore - 452010, Madhya Pradesh, (Tel No. 0731-2554477) E-mail: secy.nca@nic.in	Shri Yogesh Pushwani, Secretary and Grievance Redressal Officer
3.	Betwa River Board	Betwa River Board, Nandanpura, Jhansi, Uttar Pradesh - 284003 (Tel No. 0510 -2480279)	Shri Kautuk Jain Pay & Accounts Officer and Grievance Officer
4.	Central Ground Water Board	CGWB, CHQ Bhujal Bhawan NHI V, Faridabad -121001 Phn.No. 8718803058 Office Phn. No. -0129-2477409 Shailendradwivedi -cgwb@gov.in	Shailendra Nath Dwivedi, Scientist 'E' & Director, (Administration)
5.	Central Soil and Materials Research Station	Room No. 214, New Building, CSMRS, Hauz Khas, New Delhi - 110 016 (Tel No. 0-11 26563140; Email: amardeep.singh@nic.in	Dr. Amardeep Singh Scientist 'E' & Director (Grievances),
6.	Central Water Commission	3 <sup>rd</sup> Floor, Sewa Bhawan, R.K. Puram, New Delhi - 110066, (Tel No. 011 26187232) Email: secy-cwc@nic.in	Ashwini Kumar Shukla (Staff Grievances Officer & Secretary)
7.	Central Water & Power Research Station	Central Water & Power Research Station, P.O. Khadakwasla, Research Station, Pune - 411024 (Tel No. 020-24103293) Email: Sinha.j@cwpr.gov.in	Dr. Jiweshwar Sinha, Scientist 'E', and Grievance Redressal Officer
8.	Farakka Barrage Project	Office of the General Manager P.O. Farakka Barrage, Distt. Murshidabad, West Bengal - 742212 (Tel No. 03485- 253644) Email: soeb-fbp@gov.in	Shri Uday Kumar Mondal, Sr. Administrative Office



Sl. No.	Name of the Organization	Address	Name & Designation of P.g./ S.g. Officer
9.	Ganga Flood Control Commission	Ganga Flood Control Commission, First Floor, Ganga Bhawan, Amarnath Path, Adalatganj, Patna-800001 Tel.No.- 0612-2202643 Email: sanjeevkr.76@gov.in	Shri Sanjeev Kumar Director Coord & Director (Staff Grievances & Public Grievances)
10.	National Institute of Hydrology	National Institute of Hydrology Jal Vigyan Bhawan, Roorkee, Uttarakhand - 247667 (Tel No. 01332249222)	Dr. Nitesh Patidar, Scientist-C, Public Grievance Officer
11.	National Projects Construction Corporation Limited	NPCC Ltd., Plot No. 148, Sector -44, Gurugram, Haryana-122003 Phone: 0124-4888160-65 Email ID: hree.npcc@npcc.nic.in	Smt. Jasmine Dhar Singh GM (HR) Staff Grievance Redress Officer, NPCC
		NPCC Ltd. Plot No -148, Sec.- 44, Gurugram -122003(Haryana) Phone: 0124-4888160-65 Email: arindam.guha@npcc.gov.in	Sh. Arindam Guha Senior Manager (Law) & Director (Public Grievances),
12.	National Water Development Agency	National Water Development Agency 18-20, Community Centre,Saket, New Delhi-110017 (Tel No. 26852735), , 011-24195733 Email: cehq-nwda@nic.in	Shri Baleshwar Thakur, Chief Engineer (HQ) & Grievance Officer He is appointed as Director General in NWD A w.e.f. 20.09.2024
13.	Water & Power Consultancy Services (India) Ltd.	WAPCOS Limited, 76, C, Institutional Area, Sector-18, Gurugram,Haryana-122015, Tel No: - 0124-2348021 Email Address: grievances@wapcos.co.in WAPCOS Limited, 76-C, Institutional Area, Sector-18, Gurgaon, Haryana-122015 Mail: grievances@wapcos.co.in	Shri Sanjay Sharma, Director (Staff/Public Grievance) Shri Rajat Jain, Staff Public Grievance Officer
14.	Brahmaputra Board	Brahmaputra Board Basistha,Guwahati - 781029 Mobile: 8486809881 Email ID: jbezbaruah.46@gov.in	Smt. Jalee Bezbaruah, Executive Engineer- (HQ) Brahmaputra Board Public Grievances Officer
15.	Upper Yamuna River Board	Upper Yamuna River Board, Yamuna Bhawan, C-56/3, Sector-62, NOIDA, Uttar Pradesh 201309 (Tel 0120-2975554)	Sh. Ravi Bhushan Kumar Member Secretary, UYRB

Sl. No.	Name of the Organization	Address	Name & Designation of P.g./ S.g. Officer
16.	Tungabhadra Board	Tungabhadra Board,Tungabhadra Dam, Vijayanagara District, Karnataka State. – 583225 Mobile No.+919395599451	Sri O.R.K. Reddy Secretary, & Director of Grievances
17.	National Mission for Clean Ganga	1st Floor, Major Dhyanchand National Stadium, New Delhi-110002. Phone No. 011-23072900 Email: smd@nmcg.nic.in	Shri Kundan Lal, Under Secretary, NMCG
18.	National Water Informatics Centre (NWIC)	4 <sup>th</sup> Floor, Sewa Bhawan, R K Puram, Sector-1, New Delhi-110066 Phone No. 011-29583203 Email: ak.malik@nic.in	Shri Adhir Kumar Mallik, Under Secretary (Admn.)
19.	North Eastern Regional Institute of Water and Land Management	Tezpui Dolabari, P.O. Kalaibhomora Tezpur, Assam-784027, Assam, India Phone: ujjal.hazarika(@gov.in umhazarika6@gmail.com	Dr. Uzzal Mani Hazarika , Associate Professor (WRE), Public-Grievance Officer,
20.	Godavari River Management Board (GRMB)	Godavari River ManagementBoard, 5 <sup>th</sup> Floor, Jalasoundha, Errum Manzil, Hyderabad-500082 Phone: 040-23313164 E-mail: membersecy-grmb@gov.in	Shri R. Azhagesan, Member Secretary, GRMB
21.	Krishna River Management Board (KRMB)	Krishna River Management Board, 5 <sup>th</sup> Floor, Jalasoudha, Errum Manzil, Hyderabad-500082 Phone: 040-23301858 E-mail: membersecretary-krmb@gov.in	Shri D.M. Raipure, Member Secretary, KRMB
22.	National River Conservation Directorate (NRCD)	Room No. 140, 1 <sup>st</sup> Floor, Pt. Deendayal Antyodaya Bhawan, First Floor, C.G.O. Complex, Lodhi Road, New Delhi- 110003 Tel No. - 011-24366018 Email:nelapatla.ashokbabu@gov.in	Shri Nelapatla Ashok Babu, Director(NRCD)
23	National Water Mission	Room No. 235 , 2 <sup>nd</sup> floor , Block 3, CGO Complex , Lodhi Road, New Delhi Tel No. - 011-24368984 Email:- jp.singh22@nic.in	Shri Jitender Pal Singh, Director, Public Grievance Officer,

Sl. No.	Name of the Organization	Address	Name & Designation of Pg./ S.g. Officer
24.	Polavaram Project Authority	H.No. 11-4-648, I Floor, Krishna Godavari Bhawan, A.C. Guards, Hyderabad – 500004 Phone No. 040-29700904 Email: polavarm-auth@gov.in	Shri Manu Ji Upadhyay Grievance Officer, Director (A&C), PPA
25.	Principal Account Office, DoWR, RD & GR	Principal Account Office, 'C' Wing, Ground Floor, Shastri Bhawan, New Delhi-110001 Telephone No.: 011-23386644(O) Email Address: s.patel@gov.in	Shri Subhash Chandra, Controller of Accounts & Public-Grievance Officer
26	Ken Betwa Link Project Authority	National Water Development Agency, 18-20, Community Centre, Saket, New Delhi - 110017 Telephone No.: 011-26852735(O) Email Address: cehq-nwda@nic.in	Shri Baleshwar Thakur, I/C Chief Engineer (Hq.)
27	Mahadayi PRAWAH	Mahadayi PRAWAH, 3 <sup>rd</sup> Floor, Sinchai Bhawan, Alto Porvorim, Bardez, Goa-403521 Email: arunkumar-cwc@gov.in	Shri Arun Kumar, Deputy Director, Mahadayi PRAWAH
28	National Dam Safety Authority (NDSA), New Delhi	Policy & Research Wing, NDSA, 1 <sup>st</sup> Floor, West Block-II, Sector-I, R.K.Puram, New Delhi-110066, Tel.No.011-29583749, & E-mail: dirpr-ndsa@gov.in	Shri Mohmmad Zishan Deputy Director
29	Cauvery Water Managemene Authority (CWMA)	Cauvery Water Regulation Committee, 6th Floor, SamparkaSoudha, KRDCL Building, Dr. Rajkumar Road, Rajaji Nagar, Bengaluru-560010 Phone No. 080-29905066 Email: <a href="mailto:cwrc.blr@gov.in">cwrc.blr@gov.in</a> , <a href="mailto:cwrc.blr@gmail.com">cwrc.blr@gmail.com</a>	Smt. Uma B. Deputy Director
30	Atal Jal (Atal BhujalYojana)	Atal Bhujal Yojana, 6th floor, MDSS (MTNL) Building, CGO Complex, Pragati Vihar, New Delhi -03. Tele: 011-24320293 Email: <a href="mailto:atal-jal@gov.in">atal-jal@gov.in</a> <a href="mailto:r.langer@ias.nic.in">r.langer@ias.nic.in</a>	Dr. Raghav Langer, Director (Atal Jal)

## ANNEXURE – XII

**LIST OF CENTRAL PUBLIC INFORMATION OFFICERS/  
APPELLATE AUTHORITIES IN THE VARIOUS WINGS/  
SECTIONS OF THE DEPARTMENT OF WATER RESOURCES,  
RIVER DEVELOPMENT & GANGA REJUVENATION**

S. No.	Name & Designation of CPIO Appointed (S/Shri/Smt)	Name of the Section/ Desk/work	Name & Designation of the Appellate Authority appointed (S/Shri/Smt/Kum)
1	Raju, Under Secretary (Admn/Cash) Tel No.011-23738126 Email id : <a href="mailto:usadmn-mowr@nic.in">usadmn-mowr@nic.in</a>	Administration Section /Cash Section & SC/ST/OBC Cell	Shanker Lal, Deputy Secretary (Admn /Cash) Tel. No. 011-23712655 Email id : <a href="mailto:dsadmn-mowr@nic.in">dsadmn-mowr@nic.in</a>
2	Ashish Kumar Sao (General Administration) Tel No. 011-23710333 Email: <a href="mailto:usga-mowr@nic.in">usga-mowr@nic.in</a>	General Administration	Dalbir Singh, Deputy Secretary (General Administration) Tel. No. 011-23716369 Email id : <a href="mailto:dsga-dowr@gov.in">dsga-dowr@gov.in</a>
3	Anil Kumar Sharma, US(E-I) Tel No. 011-23716928 Email: <a href="mailto:use1-mowr@nic.in">use1-mowr@nic.in</a>	E-I Section	Bhuvaneshwari Hariharan, Deputy Secretary (E-I) Tel No.011-23711459 Email id :- <a href="mailto:b.hariharan@nic.in">b.hariharan@nic.in</a>
4.	Under Secretary(E-III) Email id: <a href="mailto:raviranjan.edu@nic.in">raviranjan.edu@nic.in</a>	E-III	Shri Mahendra Nath Deputy Secretary (E-III) Email.Id: <a href="mailto:Mahendra.nath67@nic.in">Mahendra.nath67@nic.in</a> Tel.No.-011-23714734
5.	Bhuwan Bhaskar Panday, Under Secretary (PSU) Tel: 011-23714350 Email id: <a href="mailto:uspp-mowr@nic.in">uspp-mowr@nic.in</a>	PSU	Barjmohan Lal Meena, Deputy Secretary (PSU) Tel. No.-011-23711875 Email id. <a href="mailto:Barjmohan.meena@nic.in">Barjmohan.meena@nic.in</a>
6.	Arvind Joseph Soreng Under Secretary (PSU) Tel. No-011-23714350 Email id: <a href="mailto:Uspp-mowr@nic.in">Uspp-mowr@nic.in</a>	Policy and Planning	O.P Gupta, Senior Joint Commissioner(PP) Tel No. 011-23719603 Email id; <a href="mailto:sjcpp-mowr@nic.in">sjcpp-mowr@nic.in</a>
7.	Shri Mahesh Kumar Kashyap Under Secretary (IEC/e-Gov) Tel No-011-23766944 Email id :- <a href="mailto:mk.kashyap@gov.in">mk.kashyap@gov.in</a>	IEC/e-Gov	Dalbir Singh, Deputy Secretary (IEC, e-Gov) Tel No.011-23766369 Email id : <a href="mailto:dalbir.singh@nic.in">dalbir.singh@nic.in</a>

S. No.	Name& Designation of CPIO Appointed (S/Shri/Smt/Kum)	Name of the Section/ Desk/work	Name& Designation of the Appellate Authority appointed (S/Shri/Smt/Kum)
8	Manish Uniyal, Under Secretary (Coord.) Tel No.011-23383078 Email id : <a href="mailto:uscoord-mowr@nic.in">uscoord-mowr@nic.in</a>	Coordination Section	G.S. Panwar, Deputy Secretary (Coord.), Tel No.011-23074005 Email id : <a href="mailto:dscoord-dowr@nic.in">dscoord-dowr@nic.in</a>
9.	Prashant Mallik, Under Secretary (EA & IC) Tel No. 011-23383078 Email id: coord-mowr@gov.in	EA&IC	Lokesh Kumar Jain Director, (EA & IC) Tel No.011-23382448 Email id:- <a href="mailto:dsea-mowr@nic.in">dsea-mowr@nic.in</a>
10	Shalini Gupta, Under Secretary(GWE) Tel.No.011-23716928 Email id : <a href="mailto:usgw-mowr@nic.in">usgw-mowr@nic.in</a>	GWE	S.M Routray, Director (GWE), TelNo.011-23712654 Email id : sm.routray67@nic.in
11.	Jitendra Kumar, Under Secretary (Budget) Tel No.011-23719627 Email id : <a href="mailto:jitendra.kr80@nic.in">jitendra.kr80@nic.in</a>	Budget	A.K. Sahoo, Deputy Secretary (Fin-I) Tel No.011-23711360 Email id : <a href="mailto:ak.sahoo@nic.in">ak.sahoo@nic.in</a>
12.	Narayanan Bhattadiri K.P. Under Secretary (E-IV) Tel No.: 011-23711946 Email Id: use4-mowr@nic.in	E-IV	B .L. Meena, Deputy Secretary (PSU) Tel No. 011-23711875 Email id: barjmohan.meena@nic.in
13.	Bhuwan Bhaskar Panday, Under Secretary (Parl) Tel: 011-23714350 Email id: uspp-mowr@nic.in	Parliament	Mahendra Nath, Deputy Secretary (Parliament) Tel. No. 011-23726024 Email id : mahendra.nath67@nic.in & mahendra.nath@nic.in
14 .	Lalita Maini Under Secretary(IFD) Tel No. 011-23711302 Email id: maini.lalita@rmlh.nic.in	IFD	A.K. Sahoo, Deputy Secretary (Finance) Tel No.011-23711875 Email id : dirfin-mowr@nic.in
15.	Vinod Kumar Gupta, Under Secretary (E-II) Tel. No. 011-23711946 Email id: vinod.9450@govin	E-II	Shashi Pal, Director (E-II) Tel. No. 011-23310409 Email: palshashi@nic.in



S. No.	Name& Designation of CPIO Appointed (S/Shri/Smt/Kum)	Name of the Section/ Desk/work	Name & Designation of the Appellate Authority appointed (S/Shri/Smt/Kum)
16	Prashant Malik Under Secretary (Vig) Tel No.011-23350131 Email: <a href="mailto:usvig-mowr@nic.in">usvig-mowr@nic.in</a>	Vigilance	Lokesh Kumar Jain, Director (Vigilance) Tel No.011-23382448  Email id: <a href="mailto:dirvigilance-mowr@nic.in">dirvigilance-mowr@nic.in</a>
17	Rajendra Kumar Sahoo, Under Secretary (GW) Tel No. 011-23716928 Email: <a href="mailto:usgw2-mowr@nic.in">usgw2-mowr@nic.in</a>	Ground Water	Vinayak Bhatt, Director (GW) Tel No. 011-23712654  Email id : <a href="mailto:dirgw-mowr@gov.in">dirgw-mowr@gov.in</a>
18.	Ashish Agrawal, US(Atal Jal) Tel No. Email id:- <a href="mailto:ashish.agrawal85@gov.in">ashish.agrawal85@gov.in</a>	Atal Jal	Raghav langer, Director (Atal Jal) Tel. No. 011-23313543  Email Id. <a href="mailto:r.langer@ias.nic.in">r.langer@ias.nic.in</a>
19.	Anil Kumar, Assistant Director (OL), Tel. No. 011-23310408 Email id: <a href="mailto:anilk.mahraja@gov.in">anilk.mahraja@gov.in</a>	Official language Section	Vijay Singh Meena, Director (OL) Tel.No.011-23714374 Email id: <a href="mailto:vsmeena25@nic.in">vsmeena25@nic.in</a>
20	Kaushal Kumar, Deputy Commissioner (B&B) Tel No. 011-24367106 Email : <a href="mailto:kaushalkmr-cwc@nic.in">kaushalkmr-cwc@nic.in</a>	Matters of Brahmaputra & Barak Wing	Ram Das Meena, Senior Joint Commissioner (B&B) Tel No.011-24367590 Email: <a href="mailto:sjc3bb-mowr@gov.in">sjc3bb-mowr@gov.in</a>
21	Rahul Meena, Assistant Director (Planning Unit) Tel No. 011-24368941 Email id:- <a href="mailto:rahul.meena11@gov.in">rahul.meena11@gov.in</a>	Planning Unit	Mohit Verma, Joint Director (Planning Unit) Tel. No. 011-24368941 E-mail: <a href="mailto:verma.mohit@gov.in">verma.mohit@gov.in</a>
22	Shyam Sunder, Under Secretary (FM) Tel. No. 011- 24362517 Email Id: <a href="mailto:shyamsunder2@prasarbharati.gov.in">shyamsunder2@prasarbharati.gov.in</a>	FM	Manoj Kumar Sr. Joint Commissioner (FM) Tel No. 011-24392095 Email id: <a href="mailto:sjcfm4-mowr@gov.in">sjcfm4-mowr@gov.in</a>
23	Sh. Mohit Kumar, Deputy Director (CADWM) Tel.No.011-23383090 Email: <a href="mailto:cadwm-mowr@nic.in">cadwm-mowr@nic.in</a>	CAD related matters	B.B. Saikia, Senior Joint Commissioner (CADWM) Tel.No.23388977 Email: <a href="mailto:cadwmwm-mowr@nic.in">cadwmwm-mowr@nic.in</a>

S. No.	Name & Designation of CPIO Appointed (S/Shri/Smt/Kum)	Name of the Section/ Desk/work	Name & Designation of the Appellate Authority appointed (S/Shri/Smt/Kum)
24	Abhishek Gaurav, Deputy Commissioner (Basin Management) Tel. No. 011-24364473 Email Id: abhishekgaurav-cwc@gov.in	River Basin Management, Administration of UP, Bihar, MP Reorganisation Act, Inter State Water Disputes Act, Inter State Water Disputes Tribunal, technical matters of NWDA and Inter-Linking of Rivers	Rakesh Kumar, Sr. Joint Commissioner (Basin Management) Tel No.011-24367109 Email id : <a href="mailto:sjcbm-mowr@nic.in">sjcbm-mowr@nic.in</a>
25	Sh. Veeresh Kumar Pandey, Deputy Commissioner (SPR-I) Tel No.011-23385186 Email: <a href="mailto:veeresh-cwc@gov.in">veeresh-cwc@gov.in</a>	SPR-I	D.C. Bhatt, Sr. Joint Commissioner (SPR-I), Tel No.011-23385186 Email id: <a href="mailto:sjcspr1-mowr@nic.in">sjcspr1-mowr@nic.in</a>
26	Abhiram Kumar, Under Secretary (Pen. River) Tel No .011-23383059 Email : <a href="mailto:uspenriv-mowr@gov.in">uspenriv-mowr@gov.in</a>	Peninsular River Wing	Sanjay Kumar Singh, SJC (PR) Tel No. 011-23383518 Email id: <a href="mailto:cadwmsouth-mowr@nic.in">cadwmsouth-mowr@nic.in</a>
27	Abhinav Kumar Singh, Assistant Commissioner (Minor Irrigation) Tel No. 011-23387834 Email id : <a href="mailto:abhinavksinghies.cwc@gov.in">abhinavksinghies.cwc@gov.in</a>	Minor Irrigation	S.L. Meena, Sr. Joint Commissioner (MI) Tel.No.011-23387834 Email id : <a href="mailto:sjcmi-mowr@nic.in">sjcmi-mowr@nic.in</a>
28	Shreyas Gune, Deputy Commissioner (SPR-II), Tel No .011-23714129 Email id: <a href="mailto:dcspr-mowr@nic.in">dcspr-mowr@nic.in</a>	SPR-II Section	Amit Kumar Jha, Senior Joint Commissioner (SPR-II) Tel No.011-23710131 Email id : <a href="mailto:sjcpr-mowr@nic.in">sjcpr-mowr@nic.in</a>
29	Sumit Gupta, Deputy Commissioner (Indus) Tel No. 011-24360332 Email: <a href="mailto:dcindus-mowr@nic.in">dcindus-mowr@nic.in</a>	Indus Wing	Naveen Kumar, Sr. Joint Commissioner (Indus) Tel No. 011-24361437 Email: <a href="mailto:sjcindus1-mowr@nic.in">sjcindus1-mowr@nic.in</a>

S. No.	Name& Designation of CPIO Appointed (S/Shri/ Smt/Kum)	Name of the Section/ Desk/work	Name& Designation of the Appellate Authority appointed (S/Shri/Smt/Kum)
30.	Anshika Bhatnagar, SEO (MI Stat) Tel No .011-24654503 Email id : <a href="mailto:bhatnagar.anshika@gov.in">bhatnagar.anshika@gov.in</a>	Minor Irrigation Statistics	Vineetha OttapurakkalKallada JOINT DIRECTOR (MI Stat) Tel. No. 011-24654503 Email id: <a href="mailto:vineetha.ok@gov.in">vineetha.ok@gov.in</a>
31.	Shambhu Nath Gupta, Under Secretary (National Water Mission) Tel No.011-24368985 Email id : <a href="mailto:usnwm-mowr@gov.in">usnwm-mowr@gov.in</a>	National Water Mission	J.P. Singh Director (NWM) Tel. No. 011-29583482 Email id: <a href="mailto:jp.singh22@nic.in">jp.singh22@nic.in</a>
32.	Kundan Lal, Under Secretary (NMCG), Tel. No. 011-23072900 Email id: <a href="mailto:Kundan.lal68@gov.in">Kundan.lal68@gov.in</a>	Namami Gange	Binod Kumar, Director, National Mission for Clean Ganga Tel No.011-23072900 Email : <a href="mailto:binodkumar.ofb@nic.in">binodkumar.ofb@nic.in</a>
33.	Shri Yogesh Kumar, Under Secretary, (National River Conservation Directorate) TelNo. 24361057 Email:- <a href="mailto:yogesh.kr@nic.in">yogesh.kr@nic.in</a>	National River Conservation Directorate (NRCD)	Nelapatla Ashok Babu, Director(NRCD) Tel No. 011-24366018 Email id : <a href="mailto:nelnatla.ashokhabu@gov.in">nelnatla.ashokhabu@gov.in</a>
34.	Vivek Kumar Mishra, Under Secretary (NHP) Tel No. : 011-21420161 Email id: <a href="mailto:vivek.kmishra@nic.in">vivek.kmishra@nic.in</a>	NHP	Ashis Banerjee, SJC (NHP), Tel No. 01124367081 Email id: <a href="mailto:Sjc1nhp-mowr@gov.in">Sjc1nhp-mowr@gov.in</a>

**Note:** In case work of any CPIO/ Appellate Authority is changed due to transfer/ retirement/ any other reasons and a new official joins in place of the existing CPIO/ Appellate Authority, he/ she would automatically be the CPIO/ Appellate Authority of the allotted work. In case any CPIO/Appellate Authority proceeds on leave/training, the concerned Link Officer or the officer who is entrusted with the charge of the post of the concerned Division/Branch Head would automatically be the CPIO/Appellate Authority of the allotted work.

**Annexure-XIII****LIST OF OTHER IMPORTANT PUBLICATIONS OF DoWR,  
RD & GR AND ITS ORGANISATIONS DURING 2024-25**

Sl. No.	Publication	Released During
1.	Water Sector at a Glance-2022	Aug-2024
2.	Water & Related Statistics-2023	Sept-2024
3.	Water Sector at a Glance-2023	Sept-2024
4.	National Register of Major & Medium Irrigation Projects in India-2024	Sept-2024
5.	Compendium on Sedimentation of Reservoirs in India	August 2024
6.	Assessment of Area Affected Due to Floods in India	July 2024
7.	Report on Flood Damage Statistics(1953-2022)	July 2024
8.	Assessment of Area Affected Due to Floods in India [Part II: Assessment at Sub-District Level]	September 2024
9.	Criteria for Risk Indexing of Glacial Lakes in Indian Himalayan Region	September 2024
10.	Status Report on Coastal Area Management – An Indian Perspective, Regional Issues & Remedial Measures	September 2024









सत्यमेव जयते

**GOVERNMENT OF INDIA  
MINISTRY OF JAL SHAKTI  
DEPARTMENT OF WATER RESOURCES,  
RIVER DEVELOPMENT AND GANGA REJUVENATION  
NEW DELHI**