Introduction

Organizational history of the department of water resources, river development and Ganga Rejuvenation

1. The history of the subject 'Irrigation & Power' dates back to 1855 when it was made the responsibility of the then newly created Department of the Public Works. However, not much importance was given to irrigation work till the famine of 1858, when it was decided to take up canal construction work on an extensive scale and accordingly, an Inspector General of Canals was appointed. In 1863, taking into consideration the importance attached to development of irrigation facilities in the country, it was decided to place this subject under the charge of an irrigation expert, with the designation of Inspector General of Irrigation. He functioned under the administrative control of Secretary, Public Works Department.
2. Under the Government of India Act 1919, irrigation became a Provincial subject and the Government of India's responsibility was confined to advice, co-ordination and settlement of disputes over the rights on the water of Inter-Provincial rivers. On the recommendations of the In-charge Committee, Public Works Department was merged with the Department of Industry in 1923 and a combined department known as 'Department of Industries and Labour looked after the subject of 'Irrigation and Power'. A Central Board of Irrigation was constituted in 1927. In 1937, the Department of Industry and Labour was bifurcated into the Department of Communication and Department of Labour. The latter was assigned the work relating to Irrigation and Power. Thereafter, on the recommendation of the Secretariat Reorganization Committee, Department of Works,Mines and Power, was created which looked after the subject of 'Irrigation and Power'. In 1951, a new Ministry of National Resources and Scientific Research was set up and it took over the subject of 'Irrigation and Power' from the Ministry of Works, Mines and Power.
3. A separate Ministry of Irrigation and Power was set up in 1952 to look after the subject of irrigation. In the wake of unprecedented floods (1954), a Flood Control Board was constituted in 1954 to consider flood control programme at the highest level. Though the area under irrigation had been nearly doubled in

the two decades after independence, still about four fifths of the country's cultivated area continued to be rain fed. Further, the drought conditions in several parts of the country and the continued food shortages had brought into sharp focus the importance of providing greater irrigation facilities, and need for preparing a comprehensive plan for future irrigation development in the country. In 1969, an Irrigation Commission was set up to go into the matter of future irrigation development programme in the country in a comprehensive manner. To help in ensuring unified and coordinated programme for the speedy implementation of irrigation and command area development projects, as well as for providing other inputs for maximizing agricultural produce, a separate Department of Irrigation was set up in November, 1974 under the reconstituted Ministry of Agriculture and Irrigation, consequent upon the bifurcation of erstwhile Ministry of Irrigation and Power

4. In January 1980, Department of Irrigation came under the new Ministry of Energy and Irrigation. On 09.06.1980, the then Ministry of Energy and Irrigation was bifurcated and the erstwhile Department of Irrigation was raised to the level of Ministry with a view to having a coordinated and comprehensive view of the entire irrigation sector.
5. The following items of work were transferred from the Ministry of Agriculture (Department of Agriculture & Cooperation) to the Ministry of Irrigation with effect from 22.07.1980:-
    a. Irrigation for agricultural purpose;
    b. Minor and emergency irrigation; and
    c. Ground water exploration.
6. In January 1985, the Ministry of Irrigation was once again combined under the Ministry of Irrigation and Power. However, in re-organization of the Ministries of the Central Government in September 1985, the then Ministry of Irrigation and Power was bifurcated and the Department of Irrigation was re-constituted as the Ministry of Water Resources. This recognition of the necessity of planning for the development of the country's water resources in a coordinated manner resulted in a change in the character of the Ministry and the Ministry assumed a nodal role in regard to all matters concerning the country's water resources.

7. With the nomenclature of the Ministry as the Ministry of Water Resources,perspective planning was taken up to fulfill the role expected of the Ministry. In this new perspective, requiring overall planning and coordination of all aspects of the development of the country's water resources, it was felt necessary to formulate a National Water Policy, laying down, inter-alia, priorities for various uses of water.
8. **National Water Resources Council** was constituted under the chairmanship of Hon'ble Prime Minister to look into this aspect. The National Water Resources Council(NWRC) adopted the National Water Policy in September 1987. National Water Board was constituted in September, 1990 with Secretary, Ministry of Water Resources as Chairman and Chief Secretaries of all the States / UTs, Secretaries of concerned Union Ministries and Chairman, Central Water Commission, as Members, in order to review the progress of implementation of the stipulations of the National Water Policy for reporting to the NWRC and also initiate effective measures for systematic development of the country's water resources.
9. **Accelerated Irrigation Benefits Programme (AIBP):** Central Government launched the AIBP in the year 1996-97 to provide central assistance to the identified major/medium irrigation projects in the country, with the objective to accelerate implementation of such projects which were beyond the resource capability of the States and were at an advanced stage of completion. Priority was given to those projects which were started in pre-Fifth and Fifth Plan period and also to those which were benefiting Tribal and Drought Prone Areas. After launch of Pradhan Mantri Krishi Sinchayee Yojana(PMKSY) in 2015-16, AIBP was included in PMKSY as one of its components. Since its inception, 297 irrigation / multi-purpose projects have been included for funding under AIBP. Out of these 143 projects have been completed and 5 projects were foreclosed. An irrigation potential of 24.39 lakh hectare has been created through the completed projects.
   The cumulative central loan assistance / grant provided to 25 States under AIBP to the included major / medium irrigation projects till 31.03.2016, was Rs. 55,196 crore. Under PMKSY (AIBP), 99 projects having ultimate irrigation potential of 76.03 lakh hectare were prioritized for completion by December,

2019, with assured funding through long term irrigation fund (LTIF) through NABARD. Further, these projects, to be implemented in mission mode with pari passu implementation of command area development and water management (CAD&WM) works, with facility to avail loan for State share portion through LTIF, and interest subvention beyond 6% by Government of India. Total requirement of funds for completion of these 99 projects is estimated at Rs. 77,595 crore including CAD&WM works. For AIBP works, estimated cost is Rs. 48,546 crore with central assistance (CA) of Rs. 16,818 crore. Out of 99 projects (and 7 phases), 46 projects have been reported to be completed. Further, the scheme has been extended for implementation during 2021-26, with provision for inclusion of additional projects, beyond the 99 priority projects during this period

10. The National Water Resources Council adopted the revised 'National Water Policy 2002' and passed a resolution to this effect in its 5th meeting held on 1st April, 2002 at New Delhi under the chairmanship of Hon'ble Prime Minister. Thereafter, the National Water Board considered the further revised Draft National Water Policy 2012, as recommended by the Drafting Committee, at its 14th Meeting held on 7th June, 2012. It was circulated amongst all the States and Central Ministries/ Departments concerned for comments. The Council adopted the NWP 2012 as per deliberation in its 6th Meeting held on 28th December, 2012. The National Water Policy, 2012 was released on 8th April, 2013 during the India Water Week, 2013.
11. **The Centrally Sponsored Scheme – Rationalization of Minor Irrigation Statistics (RMIS)** was launched in 1987-88 and is being implemented by Minor Irrigation (Stat.) Wing of the Department through State Governments. It is now renamed as "Irrigation Census" which is a Centrally Sponsored Scheme with 100% Central funding.
The objective of the Scheme is to build a comprehensive and reliable database in the Minor Irrigation Sector for effective planning and policy making. Five Minor Irrigation Censuses with reference years 1986-87, 1993-94, 2000-01, 2006-07 and 2013-14 and 2017-18 have been conducted so far. For the first time, conduct of a Census of Water Bodies was taken up with reference year 2017-18.

12. **Central Sponsored Schemes-Surface Minor Irrigation (SMI) scheme and Repair, Renovation and Restoration of Water Bodies (RRR of WBs) scheme under PMKSY (HKKP)**

A) Surface Minor Irrigation (SMI) scheme

1. With water being a State subject, the planning and development of SMI schemes (with irrigation potential less than 2,000 hectare) was left solely to the States concerned.However, in view of the SMI schemes being low hanging fruits where irrigation potential could be developed in comparatively less cost, that too within less time frame,Government of India included provision for providing partial financial assistance to SMI schemes also under Accelerated Irrigation Benefit Programme (AIBP) since 1999-2000.However, such provision was limited for special category States. Subsequently thescheme was extended to other special category areas covering DPAP, Tribal, DDP, Flood prone, Left Wing extremist dominated areas of Koraput, Bolangir and Kalahandi (KBK) districts of Odisha, Bundelkhand region of UP and MP & Marathwada & Vidharbha region of Maharashtra. Main objectives of the SMI schemes are expanding the cultivable area under assured irrigation, improving water use efficiency, leading to water conservation, ground water recharge, increasing availability of drinking water, improvement in agriculture/horticulture productivity among others. Subsequently, Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) was launched in 2015-16 with an aim to enhance physical access of water on farm and expand cultivable area under assured irrigation, improve on farm water use efficiency, introduce sustainable water conservation practices etc. Ongoing scheme of Surface Minor Irrigation (SMI), along with Command Area Development & Water Management, Repair, Renovation and Restoration of Water Bodies and Ground Water components, became part of Har Khet Ko Pani (HKKP) component of PMKSY. Further, PMKSY has been continued for FY 2021-22 to FY 2025-26. While Ground Water component has been provisionally accepted till March, 2022 only, the other components of PMKSY-HKKP continue to remain a part of the scheme. Also, since 2021, the cost norms for SMI schemes have been revisedfrom Rs. 2.5 lakh per hectare to Rs. 4

lakh per hectare. Under the SMI scheme, since 12th plan onwards, 7,304 schemes are ongoing with an estimated cost of Rs. 15506.55 crore. Central Assistance (CA) of Rs. 8822crore has been released to States upto March, 2023, with completion of 4428 schemes. Against targetirrigation potential of 11.48lakh ha, 7.47 lakh hectare is reported to be created till March,2023.

2. **B) Repair, Renovation & Restoration (RRR) of water bodies Scheme**
Considering the importance of water bodies and stabilizing irrigation through them, a pilot scheme for "Repair, Renovation and Restoration (RRR) of Water Bodies directly linked to agriculture was launched in January 2005 for implementation during the remaining period of X Plan with an outlay of Rs. 300 crore. Subsequently, under XI Plan, this Ministry launched a State Sector Scheme for Repair,Renovation & Restoration (RRR) of water bodies with two components, one with external assistance and the other with domestic support. The objectives of the scheme included comprehensive improvement and restoration of water bodies thereby increasing tank storage capacity, ground water recharge, increased availability of drinking water,improvement in agriculture/horticulture productivity, etc. However, with the launch of PMKSY in 2015-16, the scheme was included as one of the components of Har Khet Ko Pani (HKKP).

   Under RRR of water bodies scheme, since 12th Plan onwards, 3075 schemes are ongoing with an estimated cost of Rs. 2834 crore. Central assistance (CA) of Rs. 554 crore has been released to States upto March, 2023, with completion of 1863 water bodies upto March, 2023. Target irrigation potential restoration of these schemes is 1.96 lakh hectare, out of which 1.54 lakh hectare is reported to be restored till March, 2023.In addition, PMKSY has been continued for FY 2021-22 to FY 2025-26. During extension,eligibility criteria for inclusion under the scheme has been made more inclusive. Some of the major changes in this regard include rural water bodies having minimum water spread area of 2 hectare now being eligible for inclusion under the scheme, which is further relaxed to 1 hectare for North Eastern, Sikkim and Hilly

States including UTs. Of J&K and Ladakh. Similarly, for urban water b, the eligibility criteria is minimum water spread area of 1 hectare, which is further relaxed to 0.5 hectare for North Eastern, Sikkim and Hilly States including UTs of J&K and Ladakh. Further, water bodies not necessarily linked to agriculture, but having one or more of the benefits such as irrigation, drinking water, ground water recharge/ percolation tanks etc., are now also eligible for inclusion under the scheme.

2. **The component 'R&D Programme in Water Sector'** under the scheme'Research and Development Programme in Water Sector and Implementation of National Water Mission' aims to promote research in water sector. The activities under the scheme are undertaken mainly through various organizations of Department of Water Resources, RD&GR namely, Central Water and Power Research Station (CWPRS); Central Soil and Material Research Station (CSMRS); National Institute of Hydrology (NIH); and Central Water Commission (CWC). Under the scheme, financial assistance is also provided to academicians/experts in Universities, IITs, NITs, recognized R&D laboratories, Water Resources/ Irrigation Departments of Central and State Governments and NGOs for conducting research in the field of water resources engineering. The R & D activities undertaken in the scheme are essential for the management and development of water resources of the country in optimal and sustainable manner. These activities are playing key role for creation and implementation of research and knowledge base for the State Governments/Union Territories, Institutions and other stakeholders working in the water sector.

3. **National Action Plan on Climate Change**: The Government of India launched National Action Plan on Climate Change (NAPCC) on 30th June, 2008, which inter-alia envisages the approach to be adopted to meet the challenges of impact of climate change through eight National Missions including National Water Mission (NWM). Ministry of Water Resources has set up National Water Mission with the main objective of "conservation of water, minimizing wastage and ensuring its more equitable distribution both across and within States through integrated water resources development and management". The Union Cabinet approved a "Comprehensive Mission Document" of the NWM on 6.4.2011 with following five goals:-

    a. Comprehensive Water Data Base in Public Domain and Assessment of Impact of Climate Change on Water Resources.

b. Promotion of Citizen and State Action for Water Conservation, Augmentation and Preservation.

c. Focused Attention on Vulnerable Areas including Over-exploited Areas.

d. Increasing Water Use Efficiency by 20%.

e. Promotion of Basin Level and Integrated Water Resources Management.

4. **Flood Management and Border Areas Programme (FMBAP)**: Flood management including erosion control falls within the purview of the States. Flood management and anti-erosion projects are formulated and implemented by concerned State Governments as per their priority. The Union Government supplements the efforts of the States by providing technical guidance and also promotional financial assistance for management of floods in critical areas. Flood protection and flood management measures are broadly classified as under-

(i) Structural Measures – These bring relief to the flood prone areas by reducing flood flows and thereby reducing the flood levels.

(ii) Non-Structural Measures – These facilitate timely evacuation of the people and shifting of their movable property to safer grounds by having advance warning of incoming flood through setting up a flood forecasting system. Discouraging creation of valuable assets/settlement of the people in the areas subject to frequent flooding i.e. enforcing flood plain zoning regulation.Integrated flood management approach aims at adopting judicious mix of structural and non-structural measures to provide a reasonable degree of protection against flood damages at economic cost.

To strengthen the structural measures a Centrally Sponsored Scheme named "Flood Management and Border Areas Programme (FMBAP") of Department of Water Resources, RD & GR is being implemented throughout the country for effective flood management, erosion control and anti-sea erosion. The Scheme also has provisions for structural and non-structural measures of flood protection under existing bilateral mechanism with the neighbouring countries. The structural and non-structural works aim to provide protection to people and property in the flood prone areas and border areas of the country and ensures equity and inclusiveness. The works under this programme are carried out by Central/ State Governments and public accountability is ensured by following all laid down financial rules and procedures as well as independent ongoing evaluation of the works. The existing FMBAP is the merger of earlier two schemes viz.

Flood Management Programme (FMP) and River Management Activities and Works related to Border Areas (RMBA) under operation during XI &XII Five Year Plan by Department of Water Resources, RD & GR. **Under this Scheme, 427 projects have been completed which has given protection to an area of around 4.994 Mha and protected a population of about 53.57 million. An amount of Rs 8,196.91 crore (Rs7,012.79 crore- FMP & Rs 1,184.12 crore – RMBA) as grant in aid has been released to States/UTs since start of XI Plan upto March, 2023 under FMBAP.**

5. **Atal Bhujal Yojana (ATAL JAL)**: India is the largest user of ground water in the world, using more than a quarter of the available global resources. Ground water has played an important role in ensuring the food security of the country for several decades and was a major driver behind the success of the 'Green Revolution' through millions of energized tube wells. This finite resource currently caters to more than 60 percent of irrigated agriculture, 85 percent of rural drinking water supplies and more than 50% of the urban water supplies. As the ground water resources in the country continued to be under increasing stress, the need for a shift in approach to management of ground water was highlighted in various fora including multilateral agencies which focused on community based approach as a practical management intervention. The potential of community-led ground water management and the need to institutionalize such initiatives through convergence of government initiatives with emphasis on demand side management and behavioural change for ensuring the long-term sustainability of ground water in the country were recognized. This understanding translated into an urgent reform in ground water management approach. Accordingly, Atal Bhujal Yojana (Atal Jal) was launched on 25.12.2019 by the Hon'ble Prime Minister.Atal Jal is a World Bank aided Central Sector Scheme with an outlay of Rs 6,000 crore focusing on community participation and demand side interventions for sustainable ground water management in identified water stressed areas. The scheme also envisages improved source of sustainability for Jal Jeevan Mission, positive contribution to the goal of doubling farmers' income and inculcating behavioral changes in the community to facilitate optimal water use. The scheme is being implemented in select areas that include 80 districts, 224 administrative blocks and 8,562 water stressed Gram Panchayats of seven States viz. Haryana, Gujarat, Karnataka, MP, Maharashtra,Rajasthan and UP.
6. **Central Ground Water Authority**: – The Authority has been constituted under section 3(3) of the Environment (Protection) Act, 1986 as per the directions of the

Hon'ble Supreme Court dated 10.12.1996 passed in respect of Civil Writ Petition 4677/1985 for regulation and management of Ground Water in the country with following powers and functions: –

(i) To regulate and control groundwater development & management in the country and to issue necessary regulatory directions (SO. 1024 (E)/06.11.2000)

(ii) 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 (SO. 38(E)/ 14.01.1997)

(iii) Exercise of powers under section 4 of the Environment (Protection) Act,1986 for the appointment of officers (SO. 1024 (E)/ 06.11.2000)

(iv) To resort to penal provisions contained in sections 15 to 21 of the said Act(SO. 38 (E)/ 14.01.1997)Presently, the Authority regulates in 20 States / UTs and issues NOC for Ground Water abstraction by industrial, infrastructure and mining project. Ministry of Jal Shakti has notified the revised guidelines on 24.09.2020 for regulation and control of GW development in the country. These guidelines have pan India applicability. CGWA is pursuing with State Authorities to adopt these guidelines. The guidelines include exemptions to individual domestic consumers for drinking / domestic use, rural drinking water supply schemes, Armed Forces and Central Armed Police Forces Establishments,agricultural users and MSEs rises drawing < 10 KLD). Bulk water suppliers / tankersuppliers have been brought in the ambit of NOC.

7. **Namami Gange:** Efforts to clean Ganga were first initiated in 1985 with the Ganga Action Plan-I in 25 main stem towns, followed by Ganga Action Plan-II in 1993, which extended it to 60 towns along Yamuna, Gomti, Damodar and Mahananda. In 1995,National River Conservation Plan was launched to include other major rivers of India, and GAP-II with 8 rivers from Ganga basin was merged into it. Thereafter, National Ganga River Basin Authority was established as a separate Authority for Ganga in 2009, with the Hon'ble Prime Minister as Chairperson, for promotion of a holistic and integrated river basin approach. In 2011, National Mission for Clean Ganga was established as a registered society as the implementation arm of NGRBA. In 2014-15, the Namami Gange mission was announced as an integrated mission for conservation of Ganga and its tributaries, with a budgetary outlay of Rs 20,000 crore for a period of 5 years. In 2016, NGRBA was dissolved and replaced with National Council for Rejuvenation, Protection and Management of River Ganga or National Ganga Council. In 2022, the Cabinet has approved Namami Gange II for Rs 22,500 crore

for the period 2021- 2026.The Government notified NMCG as an Authority under Environment Protection Act, 1986 in 2016 and created empowered institutions and laid down fundamental principles with a comprehensive framework for rejuvenation of rivers in Ganga basin. This approach is now considered a model for application for rejuvenation of other rivers in the country. It integrates rivers, tributaries, wetlands, flood plains, springs and small rivers as a single system. Over 35,000 ha area has been afforested in the 5 Ganga main stem States.Biodiversity conservation initiatives has started to show results, with increase in biodiversity sightings such as Gangetic Dolphin, Otters, Turtles, Hilsa, etc. With sustained Jan Bhagidari river front development has transformed ghats from dirty to beautiful riverbanks. Under Namami Gange, 185 Ghats, 47 Crematoria and 8 Kunds have been established.

8. **Jal Shakti Abhiyan:** Though India receives 1,190 mm rainfall on an average annually, there is wide temporal and spatial variation. India receives rains during the monsoon periods (June – November) and rains are the primary source of water in India.Therefore, we need to take steps to improve awareness to conserve rain water. Water conservation subject has featured many times in Hon'ble Prime Minister's monthly address to the nation – the "Mann ki Baat" and he has made a call to make the JalSanchay endeavour a Jan-Andolan. In order to make water conservation everyone's business and to make 'Jal Andolan' a 'Jan Andolan', the Government of India launched the Jal Shakti Abhiyan in 2019 as a time bound, mission mode water conservation campaign in 1592 blocks out of 2836 blocks of 256 water stressed districts of the country.After the successful implementation of first edition of Jal Shakti Abhiyan in 2019, the second edition was launched by the Hon'ble Prime Minister on 22nd March 2021 as Jal Shakti Abhiyan: Catch the Rain (JSA:CTR) campaign with people's active participation to conserve rain water to recharge ground water and surface water sources. The third Edition has been launched by Hon'ble President of India on 29th March, 2022, for roll out in the entire country.
9. **Dam Rehabilitation and Improvement Project (DRIP)**:
   DRIP Phase-I: The World Bank funded Dam Rehabilitation and Improvement Project(DRIP) was implemented during April 2012 to March 2021, rehabilitation provision of 223 dams located in 7 States with 10 Implementing Agencies. The main objective of the scheme was to improve the safety and operational performance of selected dams in the territory of the Participating states with emphasis on institutional strengthening by system wide management approach. The final completion cost of

the scheme was Rs. 2,567 crore.

DRIP Phase-II and III: This newly initiated externally funded Scheme has provision for rehabilitation of 736 dams, budget outlay of Rs. 10,211 crore (Phase II: Rs 5,107 crore;Phase III: Rs 5,104 crore), spread across 19 States and 3 Central Agencies. The scheme is 10 years' duration, being implemented in two Phases, each of six-year duration with two years overlapping. The Phase-II of scheme is co-financed by World Bank and Asian Infrastructure Investment Bank (AIIB), with funding of US$ 250 million each. The World Bank has declared the loan effective in October 2021.

10. **Enactment of the Dam Safety Act 2021:** To review the existing dam safety practices and to evolve unified dam safety protocols in the country, a committee was constituted under Chairman, CWC in 1982 which submitted its report in 1986 recommending enactment of Dam Safety legislation. Draft Dam Safety Bill prepared by Government of India in 2002 was circulated, based on which State of Bihar enacted Dam Safety Act for itself while States of Andhra Pradesh and West Bengal passed resolutions regarding Dam Safety Legislation to be regulated by an Act of Parliament under Article 252. Subsequently, Dam Safety Bill, 2010 was tabled in Lok Sabha which was referred to the Parliamentary Standing Committee on Water Resources. Based on the recommendations of PSC and advice of Ld. Solicitor General of India, Dam Safety Bill 2019 was finalized and introduced in Lok Sabha under Article 246 read with Entry 56 and Entry 97 of list-I under Schedule-VII and passed on 02.08.2019.The Bill got subsequently passed in Rajya Sabha on 02.12.2021 and again in Lok Sabha on 08.12.2021. The Dam Safety Act, 2021 was published in the Official Gazette of India on 14.12.2021 and came into effect from 30.12.2021. This landmark Act aims to address the dam safety issues holistically. The Act provides a comprehensive framework for proper surveillance, inspection, operations and maintenance of all the large dams of the country for ensuring their safe functioning and to avoid dam failure related disasters.
11. **Ken-Betwa River Interlinking Project (KBLP) –** Suggestions for a National water grid for transferring water from water rich regions to water-deficit areas have been made from time to time. Two proposals, put forth earlier in the seventies which attracted considerable attention, are National Water Grid by Dr. K. L. Rao and Garland Canal by Captain Dastur. These proposals were not pursued further by the Government as they were not found techno-economically feasible. The continued interest shown by many people gave impetus to study inter-basin water transfer proposals. The then Ministry

of Irrigation (now Ministry of Jal Shakti) formulated a National Perspective Plan (NPP) for Water Resources Development in August 1980 for transfer of water from water surplus basins to the deficit basins. The National Perspective Plan comprises two components, namely i) Peninsular Rivers Development and ii) Himalayan Rivers Development. Peninsular Rivers Development Component includes interlinking of Mahanadi-Godavari-Krishna-Pennar-Cauvery rivers, interlinking of west flowing rivers, north of Bombay and south of Tapi, interlinking of Ken-Chambal sand Diversion of other west flowing rivers. The Himalayan Rivers Development Component envisages construction ofstorages on the principal tributaries of Ganga and the Brahmaputra in India, Nepal and Bhutan along with interlinking canal systems to transfer surplus flows of the eastern tributaries of the Ganga to the West, apart from linking of the main Brahmaputra and its tributaries with the Ganga and Ganga with Mahanadi and further South. The implementation of National Perspective Plan would give benefits of 25 million ha of irrigation from surface waters, 10 million ha by increased use of ground waters, raising the ultimate irrigation potential from 140 million ha to 175 million ha and generation of 34 million KW of power, apart from the incidental benefits of flood control, drought mitigation, navigation, water supply, fisheries,salinity and pollution control etc. The National Water Development Agency(NWDA) was set up on 17th July 1982 by 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 links under National Perspective Plan.Out of 30 links under NPP, 5 links have been identified as priority links viz; Ken-Betwa link project, Godavari-Krishna-Pennar-Cauvery link project (set of 3 links) and Modified Parbati-Kalisindh-Chambal link project (Phase-I).Ken-Betwa link project is the first link under NPP, for which implementation is initiated. A tripartite Memorandum of Agreement (MoA) was signed between Government of MP and UP with Government of India for implementation of the Ken-Betwa river link project on 22nd March 2021 in the august presence of Hon'ble Prime Minister at a cost of Rs 44,605 crore with Central support of Rs 39,317 crore.

This project involves transfer of water from the Ken to the Betwa River through the construction of Daudhan Dam and a canal linking the two rivers, the Lower Orr Project, Kotha Barrage and Bina Complex Multipurpose Project. The project will provide an annual irrigation to 10.62 lakh ha, drinking water supply to a population of about 62 lakh and also generate 103 MW of hydropower and 27MW solar power.A Steering

Committee and Special Purpose Vehicle for the implementation viz; Ken Betwa Link Project Authority (KBLPA) of KBLP jointly by Government of India and State Governments of MP and UP have been constituted. Four meetings of Steering Committee and KBLPA, each have been held so far.Works on preparation of DPRs of various components like two barrages d/s of Bariyarpur PUW in UP, renovation of existing Tanks in Mahoba districts of UP, DPRs for Strengthening/ Repair of Bariyarpur PUW, Parichha Weir, Barwa Sagar Dam and other appurtenant Structures and Renovation and modernization of existing Ken command system etc. are in progress. Initially the focus is on land acquisition, R&R, fulfilling the compliances to the conditions of forest clearance and wildlife clearance. Work on land acquisition is progressing fast. A Greater Panna Landscape Council (GPLC) has been constituted for systematic implementation of Integrated Landscape Management Plan (ILMP) asnd its first meeting was held on 5.9.23. Necessary modalities for engagement of a Project Management Consultant (PMC) for assisting KBLPA in implementation of the project have been initiated and a Consultation Evaluation Committee (CEC) has been constituted for the same. A Technical Advisory Group for KBLP (TAG-KBLP) for KBLPA has been constituted to review and advise KBLPA on various planning and technical matters on implementation of various components of the link project. Six (6) meetings of TAG have been held so far. The tender document for the main component of the project i.e. Daudhan dam and its Appurtenant works (EPC mode) has been finalized by Technical Advisory Group of KBLP and the Tender Evaluation Committee (TEC) for Daudhan dam works and the tender has been floated on CPP portal on 11.08.2023. The offices of KBLPA have been established at Bhopal, Chhattarpur, Panna and Jhansi.An amount of Rs. 4,634.46 crore was released in 2021-22 and allocation of Rs. 1,400 crore in FY 2022-23 has been made for the project. A provision of Rs. 3500 crore has been made in the year 2023-24 in the Union budget for KBLP. Total amount spent on KBLP till 30.9.23 is Rs. 8496.39 crore. The project is planned to be completed in 8 years, by March, 2030.The project is expected to boost socio-economic prosperity in the backward Bundelkhand region on account of increased agricultural activities and employment generation. It would also help in arresting distress migration from this region.

12. **National River Conservation Plan (NRCP):** NRCP is a Central Sponsored Scheme and run by National River Conservation Directorate (NRCD), an attached office under this Department to provide financial assistance to the State Governments for conservation

of rivers (excluding river Ganga and its tributaries) on cost sharing basis between the Centre and State Governments for taking up various pollution abatement works relating to interception, diversion and treatment of raw sewage, low cost sanitation,river front/bathing ghat development etc. Assessing the magnitude of problems of River Water Pollution, the Central Government took initiative of river pollution abatement programme with the launching of Ganga Action Plan (GAP), Phase-I as a centrally funded scheme in 1985. In order to give final shape to the policy frame-work and oversee the implementation of NRCP, the Govt. of India set up a National River Conservation Authority (NRCA) under the chairmanship of Hon'ble Prime Minister and a steering committee under the chairmanship of Secretary GAP was initiated on the basis of a comprehensive survey of the Ganga basin carried out by the Central Pollution Control Board (CPCB). GAP Phase-I was extended to GAP Phase-II, which was approved in various stages during 1993-96. This was expanded to cover other rivers under NRCP in the year 1995. In exercise of the powers conferred under the Environment (Protection) Act 1986, the National Ganga River Basin Authority (NGRBA) was constituted under the chairmanship of the Prime Minister as an empowered planning, financing, monitoring and coordination authority for the Ganga River on 20.02.2009.From 01.08.2014, works related to Ganga and its tributaries (Yamuna, Gomati, Damodar, Mahananda, Chambal, Beehar, Khan, Kshipra, Betwa, Ramganga and Mandakini etc.)along with National Mission for Clean Ganga (NMCG) were transferred to the Ministry of Water Resources, River Development & Ganga Rejuvenation. Thereafter, NRCD along with NRCP were transferred from Ministry of Environment, Forest & Climate Change(MoEF&CC) to Department of Water Resources, River Development and Ganga Rejuvenation under the newly constituted Ministry of Jal Shakti by amending the GoI(Allocation of Business) Rules, 1961 through Govt. of India Notification No. 1763 dated14.06.2019

13. **National Hydrology Project (NHP)**, a Central Sector Scheme under DOWR, RD & GR is being implemented with support from the World Bank for a period of 8 years commencing from 2016-17 through involvement of 48 Central and State Implementing Agencies on pan India Basis. These implementing agencies comprise State Water Resources & Ground Water Departments and Central organizations dealing with water resources at basin level apart from a few research institutes. The project envisages establishing a system for timely and reliable water resources data acquisition, storage,collation and management across all States & UTs in India. Major

initiatives undertaken in the project include establishment of National Water Informatics Centre (NWIC) as a central repository of nation-wide water resources data and analytics. The Centre is entrusted with maintaining, updating, collating and disseminating data on water resources and on allied themes. A number of analytical tools/systems are also being developed for informed decision making for water resources assessment, planning and management including extreme event management. maintaining, updating, collating and disseminating data on water resources and on allied themes. The other initiative is establishment of high frequency real time data Acquisition system for hydro-met and ground water parameters. Besides, technical and financial support id being provided to the States to modernize and strength their data cum modelling and training centers. Institutional capacity building is also being carried out to enhance the skills and capabilities of water resources professionals to face the challenges in the water sector through use of modern analytical tools.

Coastal Management Information System (CMIS): CWC has initiated development of CMIS under the Plan Scheme "Development of Water Resources Information System (DWRIS)" with the objective to collect/transmit process and analyze data. The CMIS envisages setting up sites along the coast of the maritime States/UTs of India for collecting data on relevant coastal processes. Three coastal data collection sites have been completed and five are under progress.

14. **DWRIS Scheme:** The scheme "Development of Water Resources Information System (DWRIS)" is a Central Sector Scheme of the Deptt. of Water Resources, River Development & Ganga Rejuvenation (DoWR, RD & GR), Ministry of Jal Shakti, Govt. of India being implemented by Central Water Commission (CWC). The scheme follows from the National Water Policy-2012.Total outlay approved for the scheme for the period 2021-26 (5 years) is Rs. 715.00 Cr.
Sub components of the scheme is as summarized below:
(i) Collection of the hydrological data
(ii) Monitoring of Glacial Lakes and Water Bodies
(iii) Water Quality Observation
(iv) Storage data of major reservoirs
(v) Coastal Management
(vi) Flood Forecasting
(vii) Integrated Reservoir Operation

(viii) Strengthening of Monitoring Unit in CWC
(ix) Data Bank and Information System -continued scheme
(x) Software Management in CWC
(xi) Integrated Water Resources Management

15. On 31.07.2014, the Ministry was renamed as **"Ministry of Water Resources, River Development & Ganga Rejuvenation".** The following additional items of work have been assigned to the Ministry:-
a. National Ganga River Basin Authority including the Mission Directorate, National Mission for Clean Ganga and other related matters of Ganga Rejuvenation.
b. Conservation, development, management and abatement of pollution in river Ganga and its tributaries.
16. On 14.06.2019, the Ministry was renamed as **"Ministry of Jal Shakti"/ "Jal Shakti Mantralaya)" with two Departments i.e. Department of Water Resources, River Development and Ganga Rejuvenation (Jal Sansadhan, Nadi Vikas Aur GangaSanrakshanVibhag)** and Department of Drinking Water and Sanitation (Peya Jal Aur SwachhataVibhag)". The work assigned to Department of Water Resources, River Development and Ganga Rejuvenation is:-
17. **GENERAL**
    a. Development, conservation and management of water as a national resource; overall national perspective of water planning and coordination in relation to diverse uses of water and interlinking of rivers;
    b. National Water Resources Council;
    c. General Policy, technical assistance, research and development training and all matters relating to irrigation, including multi-purpose, major, medium, minor and emergency irrigation works; hydraulic structures for navigation and hydro-power; tube wells and groundwater exploration and exploitation; protection and preservation of ground water resources; conjunctive use of surface and ground water, irrigation for agricultural purposes, water management, command area development; management of reservoirs and reservoir sedimentation; flood (control) management, drainage, drought proofing, water logging and sea erosion problems; dam safety;
    d. Regulation and development of Inter-State rivers and river valleys. Implementation of Awards of Tribunals through Schemes, River Boards;

e. Water laws, legislation;

f. Water quality assessment;

g. Cadre control and management of the Central Water Engineering Services (Group A);

h. Conservation, development, management and abatement of pollution of rivers.

18. **INTERNATIONAL ASPECTS**

a. International organizations, commissions and conferences relating to water resources development and management, drainage and flood control;

b. International Water Law;

c. Matters relating to rivers common to India and neighbouring countries viz Expert Level Mechanism with China; Joint Group of Experts and Joint Experts Team with Bhutan; the Joint Rivers Commission with Bangladesh, the Indus Waters Treaty 1960; the Permanent Indus Commission;

d. Bilateral and external assistance and cooperation programmes in the field of water resources development.