

Jal Vikas
April, 2025



जल विकास
अप्रैल, 2025



**"Water is Precious,
Cherish Every Drop of it"**

राष्ट्रीय जल विकास अभिकरण की आंतरिक पत्रिका
(Inhouse Bulletin of National Water Development Agency)

Activities of NWDA at a Glance



A meeting was held among NIT, Patna; Director (MDU) and NWDA, Patna on 10.01.2025 regarding System Studies of GDS link.



Glimpses of Republic Day Celebrations in the offices of National Water Development Agency



'जल के अंतरबेसिन अंतरण के लिए अंतर्राज्यीय सहयोग' विषय पर दिनांक 23-24 जनवरी, 2025 को तकनीकी संगोष्ठी का आयोजन राजविअ द्वारा हैदराबाद में किया गया।



Saplings Plantation at ID, NWDA, Nagpur under the #Plant 4 Mother campaign during the month of January 2025

From DG's Desk



It gives me great pleasure to place the quarterly issue of "Jal Vikas - April 2025" of NWDA, the in-house bulletin of NWDA, which gives a recap of works, functions and activities of NWDA particularly with respect of ILR programme of DoWR, RD&GR of MoJS.

ILR is an ambitious program of Govt. of India, designed to create a network of canals and reservoirs that connect major rivers across India by transferring water from surplus areas to those experiencing scarcity and thus aims to provide equitable distribution of water. Work being done by NWDA on various ILR projects are the efforts in this direction. First ILR project which is on the floor is Ken-Betwa, its implementation work is in progress. Under this link project land acquisition completed for Daudhan dam and for link canal it is under progress, letter of acceptance is issued to the firm for construction of Daudhan Dam; Head works of Lower Orr completed and for other Phase-II projects it is in progress. Various issues related to this project were deliberated in 7th meeting of KBLPA which was held during the reporting period. Other projects which are at advanced stage includes DPR preparation of MPKC link; preparation of working DPR of Kosi-Mechi Intra-State link and two Intra-State link projects of Gujarat namely Damanganga(Ekdare)-Godavari and Damanganga-Vaitarna-Godavari for which DPRs have been completed and updated as per State TEC note.

System Studies of ILR projects to determine long term effect of Canal irrigation in the system and assessment of various possible scenarios is also under progress. System Studies of MG link completed and it is in progress for M-S-T-G, G-D-S, S-M, F-S links. Issues related to these System studies were discussed in the 7th meeting of the Sub-Committee for Comprehensive Evaluation and System Studies on ILR, held during the reporting period.

In the inner pages of the magazine, there is an article on "Integrated Reservoir Simulation of Damanganga-Vaitarna-Godavari link project". Brief detailing on Technical Studies being prepared by NWDA is covered under Technical Digest. Other features of the magazine include Question raised and Answers on ILR in Parliament; Water Resources in Media; Glimpses of NWDA activities; Appointments, Promotion and Retirements of NWDA Officials; Family Corner Articles and Poems contributed by NWDA fraternity etc.

I extend my sincere gratitude to entire editorial Team of Jal Vikas in assembling value added articles and bringing the issue an informative one. Our efforts to further improve and expand the JalVikas will continue with your encouragements and contributions.



(Baleshwar Thakur)
Director General

Editor's Desk Message



Dear Readers,

I'm excited to share the April, 2025 issue of the Jal Vikas, Quarterly magazine of NWDA. This edition highlights the ongoing progress and efforts in India's water sector, and I'm pleased to bring you the latest updates.

Water is essential for life and the growth of our economy. With increasing challenges like water scarcity, climate change, and growing demand, it's more important than ever to manage our water resources wisely. In this issue, we focus on how new technologies, careful planning, and teamwork are helping to shape the future of water management in India.

The National Water Development Agency (NWDA) has been working hard to meet its goals, which include studying and ensuring the best use of India's water resources. NWDA also conducts surveys and prepares Detailed Project Reports (DPRs) for river linking projects under the National Perspective Plan (NPP). These projects cover both the Peninsular and Himalayan regions and aim to improve water sharing, resource management, and long-term sustainability.

The successful completion of DPRs for both the Inter-Basin Water Transfer (IBWT) and Inter-State Water Transfer (ISWT) projects is a major milestone. These efforts will help bring people together and lead to successful implementation of the ILR projects, which are vital for managing India's water resources.

I hope this issue gives you valuable insights into the challenges and opportunities in water management, and the steps being taken to ensure a water-secure future for India.

Enjoy reading, and thank you for your continued support!

A handwritten signature in blue ink, appearing to read 'Dilip Kumar', with a stylized flourish at the end.

(Dr. Dilip Kumar)
Director(MDU)

Contents

Particulars	Page No.
Functions of National Water Development Agency	6
Highlights of NWDA Activities during the Quarter	7-8
Technical Article	9
➤ Integrated Reservoir Simulation of Damanganga - Vaitrana - Godavari link project	9-19
Technical Digest	20-23
ILR in Parliament	24-47
Water Resources in Media	48-51
Glimpses of NWDA	52-59
➤ Meeting for Reviewing the Programme and Progress of Work of NWDA	52
➤ Organization of Technical Seminar	53
➤ 7th Meeting of Ken-Betwa Link Project Authority	54-55
➤ 7 th Meeting of the Sub-Committee for Comprehensive Evaluation and System Studies on ILR	55-56
➤ International Women's Day Celebration	57
➤ Swachhta Pakhwada Celebration	57-58
Interaction with State Governments/Important Field Visits	59
Appointments, Promotions and Retirements of NWDA Officials	60
➤ Appointments	60
➤ Promotions	60
➤ Retirements	60
Participation of NWDA Officials in Trainings/ Workshops/ Conferences	61
हिन्दी के बढ़ते कदम	62
Family Corner	63-65
➤ Happiness for Life, Society and Nation	63-64
➤ Drawing depicting Importance of Water	65
कविताएं	66
➤ जल संरक्षण	66
➤ जल बचाओ	66
Activities of NWDA at a Glance	67
Editorial Board	
Shri, Chief Engineer (HQ), NWDA	: Chairman
Shri Shajatnan K.H., Director (Technical), NWDA	: Member
Dr. Dilip Kumar, Director (Multi-Disciplinary Unit), NWDA	: Editor & Member Secretary
Editorial Support	
Smt. Vineeta Sharma, Deputy Director (Hydrology); Shri Amit Boora, Junior Engineer, Multi-Disciplinary Unit (MDU), NWDA, New Delhi.	

The views and opinions expressed by the Authors are their own and not necessarily of NWDA.



Functions of National Water Development Agency

The then Ministry of Irrigation [now Ministry of Jal Shakti, Department of Water Resources, River Development & Ganga Rejuvenation (MoJS, DoWR, RD & GR)], Government of India, formulated a National Perspective Plan (NPP) in the year 1980 for optimum development and utilization of Water Resources of our country India. The NWDA was set up as a Society under the Ministry in July 1982 to give a feasible shape to the proposal of the NPP with the following functions:

- To carry out detailed surveys and investigations of possible reservoir sites and interconnecting links in order to establish feasibility of the proposal of Peninsular Rivers Development Component (1981)* and Himalayan Rivers Development Component (1994)* forming part of the NPP for Water Resources Development prepared by the then Ministry of Irrigation (now MoJS, DoWR, RD & GR) and Central Water Commission(CWC).
- To carry out detailed studies about the quantum of water in various Peninsular River Systems (1981)* and Himalayan River Systems (1994)* 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 (1981)* and Himalayan Rivers Development (1994)*.
- To carry out surveys and investigations work and prepare Detailed Project Reports (DPRs) of river link proposals under the NPP for Water Resources Development and thereafter approach concerned States for obtaining concurrence for implementation of the project (2020)*.
- To prepare Pre – Feasibility Reports (PFRs)/ Feasibility Reports (FRs) (2006)*/ DPRs (2011)* of the Intra – State links as may be proposed by 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 /organization/PSU or Company and the projects forming part of Interlinking of Rivers, for completion of projects falling under Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)of which projects under Accelerated Irrigation Benefits Programme (AIBP) are also included and similar other projects (2016)*.
- 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 the then Ministry of Water Resources, River Development and Ganga Rejuvenation (now the MoJS, DoWR, RD & GR) and to secure the repayment of any such borrowed funds/money received on deposits/loan etc. by way of mortgage, pledge, charge or lien upon all or any other property, assets or revenue of the society both present and future (2016)*.
- To do all such other things the Society may consider necessary, incidental, supplementary or conducive to the attainment of above objectives (1981)*.
- To support Ken-Betwa Link Project Authority (KBLPA) as specified in Memorandum of Agreement (MoA) signed on 22nd March, 2021 for implementation of KBLP.

* Year of Gazette Notification

Highlights of NWDA Activities during the Quarter



- CAG Audit was conducted from 13.01.2025 to 31.01.2025 for the FY 2023-24 and 2024-25 pertaining to O/o IC, NWDA, Hyderabad.
- Meeting to discuss the issue of engagement of Project Management Consultancy Services for Ken-Betwa Link Project Authority under the Chairmanship of JS & FA, DoWR, RD&GR, MoJS was held on 16.01.2025 at Shram Shakti Bhawan, New Delhi.
- Technical Hindi Sangosthi, on "Inter-State co-operation for interbasin transfer of water" was conducted by NWDA, Hyderabad from 23rd to 24th January, 2025 at Hyderabad. Officials of NWDA and other officers from CWC, KRMB, CGWB, PPA, NRSC were participated in the event, followed by study tour to Srisalam Dam.
- A meeting was held on 27.01.2025 under the chairmanship of JD(RD&PP) to review the progress of Modified Parbati Kalisindh Chambal (MPKC) link project.
- Fourth meeting to review implementation of Strategy and Roadmap for NWIC under the Chairpersonship of Secretary, WR, RD&GR, MoJS held on 28.01.2025 at Shram Shakti Bhawan, New Delhi.
- Discussions held between officials of NWDA and Govt. of Telangana on Sammakka Sagar and Inchampalli Project simulations on 04.02.2025 regarding Godavari-Cauvery Link Project (G-C) to sort out various issues.
- 7th meeting of Ken Betwa Link Project Authority was held under the Chairmanship of Chief Executive Officer, KBLPA on 05.02.2025 at Jhansi.
- A meeting was held by the Secretary, DoWR, RD&GR on 12.02.2025 to review the progress of DPR preparation works of the Modified PKC link project.
- 2nd All India State Ministers Conference on Water was organised by the Ministry of Jal Shakti at Udaipur, Rajasthan from 18.02.2025 to 19.02.2025, DG, NWDA has attended the conference.
- A Review meeting on Ken-Betwa Link project was held under the chairmanship of Secretary, DoWR, RD & GR on 21.02.2025 at New Delhi.
- Hard copies of 6 DPRs in respect of Modified Parbati-Kalisindh-Chambal (MPKC) was submitted by Govt. of MP to NWDA on 21.02.2025.
- Meeting to review the progress of Ken-Betwa Link Project was held under the Chairpersonship of Secretary, Do WR, RD & GR. MOJS at Shram Shakti Bhawan, New Delhi on 21.02.2025.
- Meeting was held under Chairmanship of Additional Secretary. MoJS. DoWR. RD&GR regarding presentation on Godavari-Cauvery Link Project to sort out various issues of party States at New Delhi on 27.02.2025.
- Water Balance Study of Varahi basin (TS No:116) was revised and circulated to Concerned States/ Departments on 28.02.2025.
- Final DPRs of D(E) - G link and D-V-G link projects (20 sets of each DPR) was submitted to WRD Govt. of Maharashtra on 10.03.2025 by NWDA.

- Officials of CE(South), NWDA, Hyderabad attended 4th quarterly Dialogue 2024-25 by CGWB & CWC with AP & Telangana States on 25.03.2025.
- 7th meeting of the "Sub-committee for Comprehensive Evaluation and System Studies on Interlinking of Rivers" was held on 25.03.2025 under the chairmanship of A.B. Pandya, Secretary, General, ICID in hybrid mode.
- Water Balance Study of Kuno Basin using System Studies and Modelling Techniques has been completed and circulated.
- Revision of other Water Balance Studies completed and circulated to concerned organizations during the reporting period are Steams between Palar & Pennar, Teesta sub-basin upto Teesta Barrage and Yamuna sub-basin upto Okhla Barrage.

Integrated Reservoir Simulation of Damanganga - Vaitarna - Godavari link project

K S Naidu¹
Sachin Vishnoi²

1.0 Preamble:

The Damanganga -Vaitarna – Godvari (Kadwa-Dev nadi) link project envisages diversion of surplus flows of west flowing Damanganga and Pinjal rivers by lift from the proposed Nilmati, Met, Koshimshet and Udhale dams to serve the water short Marathwada region in Maharashtra besides providing domestic, irrigation and industrial water in Palghar district and Sinnar taluka of Nashik district. The water available for utilization is 160.97 MCM out of which 15% of available water (24.15 MCM) is reserved for local use as per Govt of Maharashtra Resolution, 4.34 MCM is reserved for downstream environmental releases during lean season as per the Govt of India stipulations and the remaining 132.48 MCM will be lifted in stages into the existing Upper Vaitarna reservoir. The diversion is proposed during the months from June to March.

Water Utilization under the Link project

Sl. No.	Particulars	Utilization (MCM)
1	Irrigation use	61.53
2	Domestic use	4.25
3	Industrial use	14.21
4	Water release to Godavari	
	Irrigation	20.00
	Industries	20.00
5	Environment releases	4.83
6	Local use (15% of water available)	24.15
7	Transmission losses	12.00
Total		160.97

The link system comprises of the following components:

Nilmati - Upper Vaitarna:

- Roller Compacted Concrete dam (395.0m) across river Val, a tributary of Damanganga near village Nilmati with FRL 460.0 m and corresponding gross storage capacity of 24.12 MCM. The length of the non-overflow section of dam is 365.00 m and the length of overflow section is 30.0 m;
- A pump house with static head of 182.00 m on the foreshore of Nilmati reservoir for diversion of water with total installed capacity of 9.6 MW;
- Water conveyance system (7.72 km) with combination of raising main, tunnel and deep cut canal from Nilmati reservoir to existing Upper Vaitarna reservoir;

1. Executive Engineer, ID, NWDA, Nashik 2. Junior Engineer, NWDA, Nashik

Met – Upper Vaitarna:

- i) Roller compacted concrete dam (524.50m) across river Vagh, a tributary of Damanganga near village Met with FRL 340.00 m and corresponding gross storage capacity of 55.88 MCM. The length of the non-overflow section of dam is 494.5 m and the length of overflow section is 33.0 m.
- ii) Lifting arrangements in 3 stages, located at RD 0.164 km, 5.544 km and 11.7 km of the conveyance system between the Met reservoir to existing Upper Vaitarna reservoir for diversion of water with total static head of 325.00 m and installed capacity of 38.00 MW;
- iii) Conveyance system (14.452 km) with combination of raising main, tunnel and deep cut canal from Met reservoir to existing Upper Vaitarna reservoir;

Koshimshet - Upper Vaitarna:

- i) Roller Compacted Concrete dam (1667.50m) across river Pinjal, a tributary of Vaitarna near village Koshimshet with FRL 380.0 m and corresponding gross storage capacity of 43.66 MCM. The length of the non-overflow section of dam is 1633.0 m and the length of overflow section is 34.50 m.
- ii) Lifting arrangements in 3 stage located at RD 0.377 km, 4.726 km and 5.065 km of the conveyance system between reservoir to existing Upper Vaitarna reservoir with total static head of 258m and installed capacity of 22.90 MW;
- iii) Conveyance system comprising of raising main of 8.335 km from reservoir to existing Upper Vaitarna reservoir.

Udhale - Upper Vaitarna:

- i) Roller compacted concrete dam (485.0m) across river Gargai nala, a tributary of Pinjal river near village Udhale with FRL 404.50 m and corresponding gross storage capacity of 16.05 MCM. The length of the non-overflow section of dam is 464.0 m and the length of overflow section is 21.0 m.
- ii) Lifting arrangements in 3 stages, located at RD 0.141 km, 1.458 km and 2.45 km of the conveyance system between Udhale reservoir to existing Upper Vaitarna reservoir with total static head of 228m and installed capacity of 11.6 MW;
- iii) Water conveyance system comprising raising main of 8.10 km long from Udhale reservoir to existing Upper Vaitarna reservoir.

Upper Vaitarna – Kadwa:

- i) Existing Upper Vaitarna dam (6717.72m) near village Dharwad with FRL 603.51 m and corresponding gross storage capacity of 353.96 MCM. The reservoir facilitates collection of surplus waters from four proposed reservoirs and diversion to existing Kadwa reservoir in Godavari basin;
- ii) A pump house at RD 0.14 km with static head of 40 m with installed capacity of 15.3 MW
- iii) Conveyance system (28.05 km) with combination of 5 tunnels and interconnecting pipeline from existing Upper Vaitarna reservoir to existing Kadwa reservoir on Godavari basin.

Kadwa – Borkhind:

- i) The existing Kadwa dam (1669m) across river Kadwa, a tributary of Godavari near village Kadwa with FRL 589.00 m and corresponding gross storage capacity of 54.47 MCM. The reservoir will facilitate collection of water from Upper Vaitarna reservoir, releasing 40 MCM into Darna, a tributary of Godavari and transfer remaining 92.07 MCM waters to Borkhind dam.
- ii) A Pump house at foreshore of existing Kadwa reservoir with a static head of 96 m with an installed capacity of 17.7 MW;
- iii) Conveyance system comprising raising main of 8.979 km long from existing Kadwa reservoir to Borkhind reservoir.

Borkhind - Dev nadi:

- i) Roller compacted concrete dam (1060m) across Kolwal, a tributary of Darna river 200m d/s of existing Borkhind dam, with FRL 670 m and Gross storage of 46.75 MCM. The length of non-overflow section is 1022 m and the length of spillway is 21 m.
- ii) A dam-toe pump house with static head of 100 m with installed capacity of 16.5 MW.
- iii) Conveyance system with combination of raising main and tunnel of 8.199 km long from Borkhind to Dev Nadi.

The total land acquisition required for the whole project will be about 1203.38 ha of which 209.16 ha is under forest. The power requirement will be about 291.71 MU.

Water Utilisations/Allocation for Various Uses

Sl.No.	Particulars	Annual Irrigation (ha.)	Utilization (MCM)
Local Use			
1	Domestic		3.62
2	Irrigation	5290	18.11
3	Industry		2.42
4	Environmental Flow		4.34
	Local use total		28.49
1	Irrigation use	17960	61.53
2	Domestic use		4.25
3	Industrial use		14.21
4	Water release to Godavari		
	Irrigation	5840	20.00
	Industries		20.00
5	Environment releases		0.49
6	Irrigation by recycled water of 29.28 (MCM) uses for Domestic & Industrial	4020	-
7	Transmission losses		12.00
	Total	33110	160.97

2.0 Salient features:

The Salient features of DVG link project are furnished below.

Salient features of DVG link project

S. No.	Description	Nilmati	Met	Koshimshet	Udhale	Borkhind
1	Location					
a)	District	Palghar	Palghar	Palghar	Palghar	Nashik
b)	Village	Nilmati	Met	Koshimshet	Udhale	Borkhind
c)	Taluka	Mokhada	Mokhada	Mokhada	Mokhada	Sinnar
d)	Basin	Damanganga	Damanganga	Vaitarna	Vaitarna	Kalwal
e)	River	Val	Vagh	Pinjal	Gargai	Kalwal
f)	Latitude	19° 57' 24. 24" N	19°55' 51. 58" N	19° 51' 28. 2" N	19° 46' 2. 37" N	19° 45' 00" N
g)	Longitude	73° 26'50 .94" E	73° 19' 22. 84" E	73° 22' 1.05" E	73° 24' 56. 87" E	73° 50' 00" E
2	Catchment area (Sq km)					
		35.0	57.0	38.49	18.9	16.0
3	Controlling level (m)					
a)	TBL	462.50	343.00	383.00	407.50	674.00
b)	MWL	461.00	341.00	380.00	405.50	670.00
c)	FRL	460.00	340.00	380.00	404.50	670.00
d)	MDDL	430.00	302.00	362.00	391.00	636.00
4	Storage (MCM) at					
a)	FRL	24.12	55.88	43.66	16.05	40.68
b)	MDDL	3.80	5.89	6.22	3.68	3.54
5	Water available for diversion					
		22.17	58.47	60.07	20.26	

3.0 Present Study:

The Govt. of Maharashtra had also conducted separately the hydrological study for assessment of yield at proposed dam sites. The water availability at proposed dam sites as derived by Govt. of Maharashtra at various dependabilities, U/S utilizations and net yield are shown below.

Yields at Various Dependabilities (Hydrology wing, GOM study)

Sl. No	Description	Dam sites (Mcum)			
		Nilmati	Met	Koshimshet	Udhale
A	Gross yield at				
i)	75% dependability	48.14	78.25	65.25	28.79
B	U/S Utilisation				

i)		25.97	19.79	5.19	8.54
C	Net yield				
i)	75% dependability	22.17	58.47	60.07	20.26

Keeping in view the requirement of local people and also Project Affected People (PAPs), a quantity of 15 % of water available capacity from the proposed reservoirs have been earmarked for meeting irrigation, domestic and industrial water requirement in the periphery of the reservoirs. The details are shown below.

Local Utilizations under the Proposed Dams

Unit: Mcum

Sl. No.	Dam sites	Water available in MCM	Local use 15% of Water available	Drinking WS (15%)	Utilisation Irrigation (75%)	Industrial WS (10%)
1	Nilmati	22.17	3.33	0.50	2.49	0.33
2	Met	58.47	8.77	1.31	6.57	0.89
3	Koshimshet	60.07	9.01	1.35	6.76	0.90
4	Udhale	20.26	3.04	0.46	2.28	0.30
	Total	160.97	24.15	3.62	18.11	2.42

4.0 Physiography, Meteorology and Climatology:

The Damanganga, a west flowing river, rises in the Sahyadri hill ranges at an elevation of 950 m above MSL near Ambegaon in Dindori Taluka of Nashik district and traverses a distance of 131 km before it drains into the Arabian Sea. The important tributaries of the Damanganga river are Shrimant, Val, Vagh, Rayte, Lendi, Sakartond, Dongarkhandi, Roshni and Dudhni.

The Vaitarna is also a west flowing river in the region North of Mumbai and South of the Tapi river. The river originates from the Sahyadri hill range in the Nashik district of Maharashtra State and after traversing a distance of about 171 km in Maharashtra, joins the Arabian Sea. The principal tributaries of river Vaitarna are Pinjal, Surya and Tansa.

These basins receive 97% of annual rainfall during monsoon season from June to September. The average annual rainfall in Damanganga basin varies from 1657 to 2983 mm whereas the same in Vaitarna basin varies from 1748 to 2798 mm. The maximum and minimum annual rainfalls recorded are 2983 mm and 1657 mm respectively which occurred in the Jawhar and Harsul raingauge stations. There are 12 raingauge stations existing over the catchment.

There are two meteorological observatories: Dahanu and Ozar maintained by IMD located in the vicinity of the link project area. In this region, May is the hottest month with the mean daily maximum temperatures vary from 37.60 C and 34.300 C.

The mean daily minimum temperatures recorded at the above observatories are 10.40 C and 17.30 C during January. The air is very humid during south-west monsoon season and in the post-monsoon, during cold and summer seasons the air is dry. The mean maximum and minimum wind velocities observed are 16.6 km/hr in July and 4.3 km/hr in November & December. The mean maximum cloud cover is observed during the month of August whereas the minimum cloud cover is observed during the month of February.

5.0 Simulation study:

The multi reservoir simulation study has been taken up to firm-up the reservoir levels and corresponding quantity of diversion of water so that the cost of the project could be economized. The methodology and input data considered for the simulation are briefed here.

5.1 Sequence of events

- a) Water will be lifted from 4 proposed reservoirs viz Nilmati, Met, Koshimshet and Udhale and will be delivered independently to existing Upper Vaitarna reservoir.
- b) The combined waters from the 4 reservoirs available at existing Upper Vaitarna reservoir will be diverted to Kadwa reservoir by lifting.
- c) 40 MCM Water will be released from Kadwa reservoir downstream into Godavari river to meet requirements of Marathwada region.
- d) The remaining waters at Kadwa reservoir will be further lifted to existing Borkhind reservoir which needs to be rehabilitated suitably.
- e) The waters received at proposed Borkhind reservoir will be pumped to Dev nadi according to the monthly water requirement for various purposes.

The multi reservoir simulation study involves integration of the reservoirs namely, Nilmati, Met, Koshimshet, Udhale and proposed (replacement) Borkhind. The water received at existing Upper Vaitarna and Kadwa reservoirs from the proposed 4 reservoirs shall not be utilised for any purposes at Upper Vaitarna and Kadwa reservoirs. As such, the existing reservoirs namely Upper Vaitarna and Kadwa are not included in the simulation study since these reservoirs facilitate collection and transmission of water for further diversion without disturbing its own operation schedule. The schematic diagram depicts the flow network of the link project.

5.2 Clauses and stipulations I S Codes:

The performance of the link project is validated according to the success criteria laid down in IS 5477 (Part -I)-1999 (Reaffirmed 2004) for various purposes as mentioned below.

Clause 4.2.2 of the IS 5477-1 (1999): Fixing the Capacities of Reservoirs - Methods, Part 1: General Requirements [WRD 10: Reservoirs and Lakes] stipulates that:

"The active or conservation storage in a project should be sufficient to ensure success in demand satisfaction, say 75 percent of the simulation period for irrigation projects, whereas for power and water supply projects success rates should be 90 percent and 100 percent respectively. These percentages may be relaxed in case of projects in drought prone areas"

5.3 Basic inputs used in the study:

Following basic inputs are used to carry out simulation study.

- 1) Monthly net yield series for a period 39 years
- 2) Original Area Elevation Capacity and Modified Area Elevation Capacity
- 3) Monthly evaporation depths.
- 4) Monthly demands for
 - i) Local reservation
 - ii) Lean season environmental releases

- iii) Domestic water supply
- iv) Irrigation needs
- v) Industrial water supply
- 5) Storages at various controlling levels

6.0 Monthly net yield series at dam site:

Guidelines for preparation of detailed project report of irrigation and multipurpose projects, 2010 by Ministry of Water Resources (Now Ministry of Jalshakti), Govt of India stipulates that:

1. Minimum 25 years' series is required when it is planned to utilise the water within the year for single i.e. irrigation purpose.
2. Minimum 40 years' series is required to decide the performance of the project if carry over is provided or for multipurpose projects.

The monthly net yield series of 39 years (from year 1981 to year 2019) is adopted for revised simulation study.

7.0 Elevation & Capacity for various project under DVG link:

The extracts of the Elevation & Capacity for various project under DVG link mentioned in simulation study report is furnished below.

Table 6: Elevation & Capacity

Sl.No	Description	Nilmati	Met	Koshimshet	Udhale	Borkhind
1	FRL(m)	460.00	340.00	380.00	404.50	670.00
2	MDDL(m)	430.00	302.00	362.00	391.00	636.00
3	Storage (MCM) at					
	FRL	24.12	55.88	43.66	16.05	40.68
	MDDL	3.80	5.89	6.22	3.68	3.54
4	Zero elevation (m) after					
	50 years	408.00	277.18	333.14	-	-
	100 years	410.41	292.43	347.60	374.05	-

8.0 Evaporation:

The pan evaporation data are as considered for proposed Pinjal reservoir (Yield study of Gargai & Pinjal rivers). The coefficients for different pans for adopting data for large size water bodies have been considered as stipulated in IS Code: 6939:1992. The monthly evaporation details of IMD station at Karjat are shown below

Pan evaporation data of Karjat IMD station

Month	mm/day	Month (m)
June	4.70	0.182
July	2.30	0.094
August	2.30	0.079
September	3.60	0.085
October	4.60	0.100
November	3.60	0.082
December	2.90	0.087

January	2.90	0.105
February	3.00	0.130
March	4.60	0.245
April	5.30	0.270
May	5.70	0.277
Total		1.737

Source: Pan evaporation data of Karjat IMD station

9. Water planning:

The proposed water utilisation in the link project is 160.97 MCM out of which, 15 % i.e., 24.15 MCM is earmarked for local use, 4.83 MCM is reserved lean season downstream environmental releases, 99.64 MCM will be used for irrigation, 7.87 MCM is used for domestic needs, 36.63 MCM (Including 14.21 MCM for Delhi-Mumbai Industrial Corridor (DMIC) for industrial uses and the remaining 12.00 MCM will be lost in transmission. The proposed water utilization is furnished below.

Water Utilization

Sl. no.	State/ district	Env flow	Water use (MCM)				Total
			Irrigation	Domestic	Industry	Tr. loss	
1	Palghar (Local use)	4.34	18.11	3.62	2.42	-	28.49
2	Nashik	0.49	61.53	4.25	14.21	8.00	88.48
3	Chaptaripati Sambhaji nagar (Jayakwadi dam)	-	20.00		20.00	4.0	44.00
	Total	4.83	99.64	7.87	36.63	12.00	160.97

9.1 Monthly local use for 4 source reservoirs:

The monthly local use for 4 proposed reservoirs to meet the local demands are given below.

Monthly Local use

Month	Local use 15% water available in MCM			
	Nilmati	Met	Koshim shet	Udhale
June	0.28	0.73	0.75	0.25
July	0.28	0.73	0.75	0.25
August	0.28	0.73	0.75	0.25
September	0.28	0.73	0.75	0.26
October	0.28	0.73	0.75	0.26
November	0.28	0.74	0.76	0.26
December	0.28	0.73	0.75	0.26
January	0.28	0.73	0.75	0.25
February	0.28	0.73	0.75	0.25
March	0.27	0.73	0.75	0.25
April	0.27	0.73	0.75	0.25
May	0.27	0.73	0.75	0.25
Total	3.33	8.77	9.01	3.04

Environmental Releases (MCM)

Month	Nilmati	Met	Koshimshet	Udhale	Borikhind
October	0.13	0.21	0.19	0.09	0.07
November	0.13	0.21	0.19	0.09	0.07
December	0.13	0.21	0.19	0.09	0.07
January	0.13	0.21	0.19	0.09	0.07
February	0.13	0.21	0.19	0.09	0.07
March	0.13	0.21	0.19	0.09	0.07
April	0.13	0.21	0.19	0.09	0.07
May	0.13	0.21	0.19	0.09	0.07
Total	0.91	1.47	1.33	0.63	0.49

Monthly demands for simulations

Demand for various purposes in MCM							
Month	Local use	Env flow	Domestic	Irrigation	Industry	Trans. loss	Total
June	2.01	0.00	0.35	0.47	1.18	0.20	4.21
July	2.01	0.00	0.36	6.28	6.19	1.28	16.12
August	2.01	0.00	0.36	7.14	6.19	1.37	17.07
September	2.02	0.00	0.36	6.20	6.19	1.28	16.05
October	2.02	0.00	0.36	6.69	6.19	1.32	16.58
November	2.04	0.69	0.36	12.86	1.19	1.44	18.58
December	2.02	0.69	0.35	24.05	1.18	2.56	30.85
January	2.01	0.69	0.35	14.64	1.18	1.62	20.49
February	2.01	0.69	0.35	3.07	1.18	0.46	7.76
March	2.00	0.69	0.35	0.13	1.18	0.17	4.52
April	2.00	0.69	0.35	0.00	1.18	0.15	4.37
May	2.00	0.69	0.35	0.00	1.18	0.15	4.37
Total	24.15	4.83	4.25	81.53	34.21	12.00	160.97

10.0 Sets for simulation runs:

Sets for simulation runs are prepared based on prevailing priorities. Base on the water planning and priority order, the following sets are prepared and used to run the simulation as per Government of Maharashtra, Water Resources Department GR Dated 18/05/2011 which stipulates priorities in the order of 1) Domestic 2) Irrigation 3) Industry. The local reservations are considered as top priority along with these priorities.

1. Nilmati reservoir
2. Met reservoir
3. Koshimshet reservoir
4. Udhale reservoir
5. Local use +Transmission loss of entire link project
6. Local + Transmission loss + Domestic use of entire link project
7. Local + Transmission loss + Domestic use + Irrigation use of entire link project
8. Local + Transmission loss + Domestic use + Irrigation use + Industrial use of entire link project
9. Local + Transmission loss + Domestic use + Irrigation use + Industrial use + Environmental flow of link project

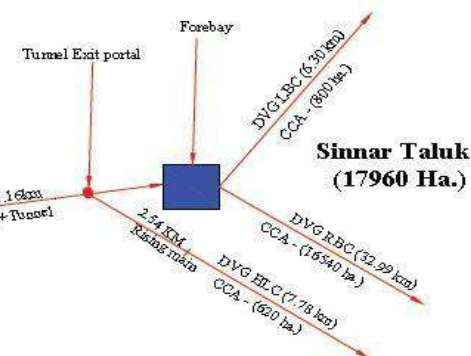
11.0 Simulation results

The multi reservoir simulation of Damanganga - Vaitarana - Godavari link project has been carried out based on the above priorities in order to study its performance.

The results for various trials of simulation are furnished in Table 13. The annual abstract and simulation run for the demands for the period from 1981-82 to 2019-20.

Table 13: Simulation results

Priority as per new water policy	Simulation Run	No. of years considered	No. of Success years	No. of failure years	*Success rate (%)	Remarks
1. Local	Run for local + Tr loss	1981-82 to 2019-20 39 Years	39	0	100%	-
2. Domestic	Run Local +Tr loss +Domestic	1981-82 to 2019-20 39 Years	39	0	100%	100% as per IS 5477 (Part 1) - 1999 for Water Supply.
3. Irrigation	Run Local +Tr loss +Domestic +Irrigation	1981-82 to 2019-20 39 Years	38	1	97%	75% as per IS 5477 (Part 1) - 1999 for Irrigation projects.
4. Industrial	Run Local +Tr loss +Domestic +Irrigation +Industries	1981-82 to 2019-20 39 Years	36	3	92%	There is no IS code provision.
5. Env flow	Run Local +Tr loss +Domestic +Irrigation +Industries +Env flow	1981-82 to 2019-20 39 Years	34	5	87%	There is no IS code provision.



Rising Main	Length in 'km'					Discharge(Q) in cumec	Lift Static Head (m)
	Approach channel to PH	Tunnel	RM including PH	Deep cut canal	Total		
Nilmati to Upper Vaitarna Dam	0.110	4.816	0.574	2.223	7.723	2.31	182.0
Met o Upper Vaitarna Dam	0.164	1.580	11.956	0.842	14.542	4.63	310.0
Koshimshet to Upper Vaitarna Dam	0.377		7.958		8.335	4.63	243.0
Udhale to Upper Vaitarna Dam	0.141		7.959		8.100	1.93	213.0
Upper Vaitarna Dam to Kadwad Dam	0.140	6.447	21.463		28.050	13.50	40.0
Kadwad Dam to Bhokhodini Dam	0.543		8.436		8.979	9.65	90.0
Rhodwad Dam to Udhale Dam	0	1.160	7.038		8.199	9.00	90.0

S.No	Particulars	Annual Irrigation (ha)	Utilization (MCM)
1	Irrigation use	17960	61.53
2	Domestic use		3.00
3	Requirement of Delhi - Mumbai Industrial Corridor (DMIC)		14.21
4	Water to Godavari River (40.00 MCM)		
	Irrigation	5840	20.00
	Industrial use		20.00
5	Environment Release		4.83
6	Irrigation by recycled water of 29.28 (MCM) uses for Domestic & Industrial	4020	
7	Local use (15% of live storage)	5290	24.15
8	Transmission losses		13.25
	Total	33110	160.97

 NATIONAL WATER DEVELOPMENT AGENCY			
DRAKAMANGA-VATHANA-GODAVARI INTRASTATE LINK PROJECT			
FLOW CHART			
Drawn : Sushil Vishwakarma, JR. Civil Investigation Division, Nashik		Reviewed : P. Srinivasulu, Deputy Director Civil Engineering Division, (South)	
Digitalized : D. R. JAYAKUMARAN, B. ARI, A.B. Civil CRIS, WFO, Hyderabad		Recommended : CH. V. Subrahmanyam Supervising Engineer	
Checked : S. S. Nanda, Executive Engineer, Civil Investigation Division, WFO, Nashik		Approved : Dr. P. N. JAYAKUMAR Chief Engineer (Civil)	
Investigation Division & Nashik		Date : November, 2024	
		Drawn No. (DA) G. I. S	

Technical Digest

The technical work program of NWDA mainly consists of preparation of DPR/FR/PFR of various link projects coming under the NPP as well as Intra-State links as proposed by State Governments of India; post DPR activities; modifications and scrutiny of FRs; System Studies of links and Revision of Water Balance Studies (WBS) of River Basins/Sub-Basins and at Diversion Sites as per the requirement. Details of present status and the progress achieved on the above cited works during the reporting period starting from 01.01.2025 to 31.03.2025 are as follows:

I. Present Status of Preparation of DPRs

Sl. No.	Name of Link Project	Present Status of Preparation of DPRs
1.	Krishna (Srisailem)-Pennar	DPR is in final stage of completion. The simulation studies at Somasila project needs to be carried out to assess whether it can accommodate the water diverted from G-C link & S-P links.
2.	Godavari (Sitarama LIS) - Krishna (Pulichintala) [renamed as Godavari (SSMPP) - Krishna (Pulichintala)]	Draft DPR is completed and will be circulated to concerned States after clarifying doubts on water transfer and success rate.
3.	Bedti -Varda	Draft report completed and submitted to Govt. of Karnataka for comments/observations.
4.	Krishna (Almatti) – Pennar	Draft report is completed and presently under scrutiny at O/o CE(S), NWDA.
5.	Damanganga-Sabarmati-Chorwad Intra-State link Project	Work of DPR will be taken up after signing of MoU with Govt. of Gujarat. In the review meeting taken by DG, NWDA on 08.01.2025, it is directed by DG that field activities will be taken up only after signing of MoU.
6.	Subarnarekha-Mahanadi	Work of topographical survey and other investigation works such as Geo-technical investigation, drilling work etc. and preparation of chapters of DPR are under progress.
7.	Mahanadi (Barmul)-Godavari (Dowlaiswaram) (MG)	Final Report and Drawing volume of topographical survey of M-G link (Reach-II) has been received from the agency which is under scrutiny at ID, Rajahmundry. The technical team of IC, BBSR and ID, BBSR & RMV inspected the major CD/CM structures along the proposed M-G link (Reach-II) during the period of 28.01.2025 to 31.01.2025. Preparation of draft chapters of DPR are under progress.

8.	Manas-Sankosh-Teesta-Ganga (MSTG)	Command area survey completed. NIT published for topographical including hydrographic survey of Manas to Teesta reach. Joint visit of expert team of CWC, CSMRS and GIS completed. Hydrological Directorate of CWC has been requested to carry out design flood studies.
9.	Ganga-Damodar-Subarnarekha (GDS)	The FR stage canal alignment of G-D-S link has been revised based on the suggestions of CWC, to incorporate recent topographical developments in the vicinity of the project area and as per recommendations made by Sub-Committee for Comprehensive Evaluation and System Studies. The modified alignment has been submitted to HQs.
10.	Sarda-Yamuna	Preparation of draft chapters of DPR are under progress.
11.	Modified Parbati-Kalisindh-Chambal	DPRs in respect of MPKC link submitted by WRD, Govt. of MP were scrutinized & preliminary comments thereon sent to MPWRD on 27.01.2025. DPRs of ERCP portion of MPKC were submitted by WAPCOS on 15.01.2025 and these are under scrutiny at ID, Gwalior. Meeting was held by JD(RD&PP) on 27.01.2025 to review the progress of MPKC link project. Another meeting was held by Secretary, DoWR, RD&GR on 12.02.2025 to review the progress of the link project. MP Govt. has submitted 6 hard copies of Hydrology of DPRs on 05.03.2025 which are under scrutiny. Kalisindh Diversion Canal Project is under finalization at NWDA, Gwalior.

II. Present Status of Post DPR Activities

Sl. No.	Name of Link Project	Present Status of Post DPR Activities
1.	Ken-Betwa	Various works in respect of implementation of KBLP is under progress which includes Land Acquisition work, R&R, fulfilling the compliance to the condition of forest clearance and wild life clearance etc. Land Acquisition in respect of Daudhan Dam is completed and for link canal it is in progress. Letter of acceptance has been issued to the firm for the work of main component of the project i.e. Daudhan and its appurtenant works (EPC mode). Work related to Land Acquisition of KB Link canal is under progress. The work of Phase-II projects of MP, namely Lower Orr, Kotha Barrage and Bina Complex are in progress. Head works for Lower Orr completed,

		whereas Head works for Kotha & Bina Complex Projects are ongoing. The preparation of DPRs of components of UP (added later) like two barrages, renovation and modernisation of tanks of Mahoba district, renovation and modernisation of three weirs and Ken command system is in progress. 7 th meeting KBLPA was held on 05.02.2025 in which various issues of the project including work plan for the year 2025-26 was deliberated.
2.	Godavari (Inchampalli Barrage) - Cauvery (Grand Anicut)	MoA for the link project was sent to concerned States/UT for consensus and signing. Five consultation meetings have been conducted so far to bring the States on board. Draft agenda for 6 th consultation meeting is under consideration in HQ.
3.	Par-Tapi-Narmada and Damanganga-Pinjal	Draft MoU was sent to Govt. of Maharashtra and Govt. of Gujarat on sharing of water and clearances of project for concurrence. The issue is being pursued at higher level by NWDA, HQ and MoJS with Govt. of Maharashtra & Gujarat to get consensus on the MoU. Modification of the DPRs incorporating the latest available data is under progress and updated chapters are under scrutiny at O/o CE(S).
4.	Kosi-Mechi (Intra-State Link Project)	Drilling work completed by GSI. DGPS survey of 246 km completed out of 277 km. Topographical survey of branch canals and distributaries has been completed. Data required by CWC for designing upto 41.3km has been submitted.
5.	Damanganga (Ekdare) –Godavari (Waghad) (Intra-State Link Project)	DPR updated as per State TEC note. Work related to CEIA studies and TAC clearance are under progress.
6.	Damangana (Val/Vagh) –Vaitarna – Godavari (Kadva Dev) (Intra-State Link Project)	-do-

III. Present Status of Preparation/Modifications of FRs/PFRs of Link Projects

Sl. No.	Name of Link Project	Present Status of Preparation/Modification of FRs/PFRs
1.	Chunar-Sone Barrage	Modification of the Draft FR is under progress in CE(N) office as per the comments of HQ.
2.	Sone Dam-STG	Preparation of draft chapters of FR are under progress.
3.	PFR of Bedti-Hirevaddati (Alternate study of B-V Link)	Modification of report is under progress in division office as per CE(S) office comments.

4.	FR of Godavari (Inchampalli) - Cauvery (Grand Anicut) link project with a diversion of 15600 MCM water	Final Report preparation is yet to taken up. In view of less water availability in Godavari and non-firming of water from Himalayan Component, the FR kept in abeyance.
5.	PFR of Aghanashi-Vedavati(Vanivilas Sagar) Intra State link	Data collection and preliminary study of link alignment are under progress.
6.	Ghaghara-Yamuna	FR has been approved by HQ.
7.	FR of Pamba-Achankovil-Vaippar link Project	As the Govt. of Kerala is not willing to spare the data, the updation work is kept in abeyance.

IV. System Studies of Link Project

Sl. No.	Name of Link Project	Present Status of System Studies
1.	System Study of Mahanadi (Barmul)-Godavari (Dowlaiswaram) (MG) (By NIH, Roorkee)	System Study of MG link is completed and finalized by NIH, Roorkee.
2.	System Study of Ganga-Damodar-Subarnarekha (By NIT, Patna)	System Study Cell of NWDA sent the observations to NIT, Patna on the draft Report. NIT, Patna submitted revised draft report which is under review at the System Study Cell at NWDA, HQ.
3.	System Study of Manas-Sankosh-Tista-Ganga (MSTG) (By IIT, Guwahati)	The observations on the first draft report was sent to IIT, Guwahati on 28.03.2025. The revised draft report is awaited from IIT, Guwahati.
4.	System Study of Farakka - Sundarban (By NIH, Roorkee)	The draft report on system study of F-S link is received from NIH. Roorkee and the same is under scrutiny.
5.	System study of Subarnarekha-Mahanadi (By NIT, Warangal)	The draft report of System Studies of S-M link is yet to be received from NIT, Warangal.
6.	System Studies of Godavari-Krishna-Pennar-Cauvery-Vaigai-Gundar Link system.	Work related to awarding of system study work for Godavari-Krishna-Pennar-Cauvery-Vaigai-Gundar link system is under progress.

Revision of Water Balance Studies (WBS)

During the reporting period, 05 WBS has been revised and circulated. In addition to this, revision of 17 WBS are under progress

ILR in Parliament

Here, the ILR issues raised and were discussed in both the houses of Parliament during the Budget session of the Parliament held from 31.01.2025 to 13.02.2025 and 10.03.2025 to 04.04.2025 and projected on the Parliament of India website (Lok Sabha and Rajya Sabha) are incorporated for information to our readers/stakeholders.

Lok Sabha

1.1 The measures taken/being taken by the Government to address groundwater depletion and water conservation; and the status of major river-linking projects and their environmental impact assessments?

Water being a State subject, the planning, funding, and execution of water resources projects are primarily a responsibility of the State Governments, based on their resources and priorities. The role of the Government of India is largely catalytic, providing technical support and, in some cases, partial financial assistance under the existing schemes of the Government of India.

To address groundwater depletion and promote water conservation, the Government of India has launched initiatives such as the Jal Shakti Abhiyan (JSA) and Jal Sanchay Jan Bhagidari (JSJB). Bureau of Water Use Efficiency (BWUE) has also been established to promote efficient water use across various sectors. Apart from this, the Government of India has successfully completed the National Aquifer Mapping (NAQUIM) Project across the entire capable area of about 25 lakh square kilometre in the country and aquifer maps and management plans, incorporating various water conservation measures through recharge structures, have been accordingly developed and shared with the respective State agencies for implementation.

Furthermore, a Master Plan for Artificial Recharge to Groundwater-2020 has been prepared in consultation with the States and the Union Territories. This macro-level plan outlines suitable recharge structures based on different terrain conditions across the country and envisages construction of about 1.42 crore rainwater harvesting and artificial recharge structures to harness about 185 Billion Cubic Meters (BCM) of monsoon rainfall. Apart from this, under the Ground Water Management & Regulation (GWM&R) scheme, the Government of India has also implemented several successful demonstrative artificial recharge projects aimed at rejuvenating groundwater levels.

Additionally, the Pradhan Mantri Krishi Sinchayee Yojana (PMKSY), launched by the Government of India in 2015, *inter alia*, also focuses on promoting sustainable water conservation practices.

Under the National Perspective Plan (NPP), formulated by the Government of India in 1980, for transfer of water from the water-surplus basins to the water-deficit basins/ regions across the country, 30 Inter-Linking of Rivers (ILR) projects have been identified - 16 projects under the Peninsular component and 14 projects under the Himalayan component. The latest Status of these ILR projects is given at **Annexure-I**.

Further, for every ILR project, a detailed Environmental Impact Assessment (EIA) study is done during the preparation of Feasibility Reports (FRs) and Detailed

Project Reports (DPRs). EIA study aims at identifying the positive and negative impacts of the project on the physical, biological, and socio-economic environment. A detailed study is done on soil type, climate type, groundwater quality, biological environment, floral diversity, Forests and Wildlife, Groundwater Recharge, Change of hydrological regime of the river, Public health aspects, Employment Potential generated, Project Affected Families, Submergence area, etc. and other socio-economic characteristics at the stage of preparation of DPRs and the Environment Management Plan to mitigate the assessed impacts.

ANNEXURE-I

Details and Current Status of ILR Projects under the NPP

Peninsular Component

Sl. No	Name	States Benefited	Status	Major Rivers
1	a. Mahanadi (Manibhadra) - Godavari (Dowlaiswaram) link	Andhra Pradesh (AP) & Odisha	FR completed	Pennar, Palar, Cauvery
	b. Alternate Mahanadi (Barmul) – Rushikulya – Godavari (Dowlaiswaram) link	AP & Odisha	FR completed	Mahanadi, Godavari
2	Godavari (Polavaram) - Krishna (Vijayawada) link @	AP	FR completed	Godavari and Krishna
3	a. Godavari (Inchampalli) - Krishna (Nagarjunasagar) link	Telangana	FR completed	Godavari and Krishna
	b. Alternate Godavari (Inchampalli) - Krishna (Nagarjunasagar) link *	Telangana	DPR completed	Godavari and Krishna
4	Godavari (Inchampalli/SSMPP) - Krishna (Pulichintala) link	Telangana & AP	DPR completed	Godavari and Krishna
5	a. Krishna (Nagarjunasagar) - Pennar (Somasila) link	AP	FR completed	Krishna, Pennar
	b. Alternate Krishna (Nagarjunasagar) - Pennar (Somasila) link *	AP	DPR completed	Krishna, Pennar
6	Krishna (Srisaillam) – Pennar link	AP	Draft DPR completed	Krishna, Pennar
7	Krishna (Almatti) – Pennar link	AP & Karnataka	Draft DPR completed	Krishna, Pennar
8	a. Pennar (Somasila) - Cauvery (Grand Anicut) link	AP, Tamil Nadu & Puducherry	FR completed	Pennar, Palar, Cauvery
	b. Alternate Pennar (Somasila) - Cauvery (Grand Anicut) link *	AP, Tamil Nadu & Puducherry	DPR completed	Pennar, Palar, Cauvery
9	Cauvery (Kattalai) - Vaigai - Gundar link	Tamil Nadu	DPR completed	Cauvery, Vaigai & Gundar
10	a. Parbati –Kalisindh - Chambal link	Madhya Pradesh (MP) & Rajasthan	FR completed	Parbati, Kalisindh, Chambal

	b. Modified Parbati – Kalisindh-Chambal link (duly integrated with ERCP)	MP & Rajasthan	Draft PFR completed	Parbati, Kalisindh, Chambal, Kul, Banas, Mej, Kuno, Chamla, Shipra, Lakhunder, Newaj
11	Damanganga - Pinjal link	Maharashtra	DPR completed	Damanganga, Pinjal
12	Par-Tapi-Narmada link	Gujarat & Maharashtra	DPR completed	Par, Tapi, Narmada
13	Ken-Betwa link	Uttar Pradesh (UP) & MP	DPR completed & project is under implementation	Ken and Betwa
14	Pamba - Achankovil - Vaippar link	Tamil Nadu & Kerala	FR completed	
15	Bedti - Varda link @@	Karnataka	DPR completed	Pamba, Achankovil & Vaippar
16	Netravati – Hemavati link**	Karnataka	PFR completed	Bedti & Varda

* Due to pending consensus on Manibhadra and Inchampalli dams, Alternate study to divert unutilized waters of Godavari river was carried out and DPR of Godavari (Inchampalli/ Janampet) – Krishna (Nagarjunasagar) - Pennar (Somasila) – Cauvery (Grand Anicut) link projects was completed. Godavari- Cauvery (Grand Anicut) link project has been prepared comprising of Godavari (Inchampalli / Janampet) - Krishna (Nagarjunasagar), Krishna (Nagarjunasagar) - Pennar (Somasila) and Pennar (Somasila) Cauvery (Grand Anicut) link projects.

** Further studies are not taken up since after implementation of Yettinahole project by Government of Karnataka, no surplus water is available in Netravati basin for diversion through this link.

@ Godavari (Polavaram) – Krishna (Vijayawada) link – The project has been taken up by Government of Andhra Pradesh.

@@ Bedti – Varda link – DPR was prepared directly after preparation of its PFR, no FR was prepared.

Himalayan Component

Sl.No	Name of the link	States / Countries benefited	Status	Major Rivers
1.	Kosi-Mechi link	Bihar and Nepal	PFR completed	Kosi, Mechi
2.	Kosi-Ghaghra link	Bihar, UP and Nepal	FR completed	Kosi, Ghaghra
3.	Gandak - Ganga link	UP and Nepal	FR completed	Gandak, Ganga
4.	Ghaghra - Yamuna link	UP and Nepal	Draft FR completed	Ghaghra, Yamuna
5.	Sarda - Yamuna link	UP and Uttarakhand	FR completed	Sarda, Yamuna
6.	Yamuna-Rajasthan link	Haryana and Rajasthan	FR completed	Yamuna
7.	Rajasthan-Sabarmati link	Rajasthan and Gujarat	FR completed	Luni, Sukri, Sagi, Bandi and Sukal Banas
8.	Chunar-Sone Barrage link	Bihar and UP	Draft FR completed	Ganga river at Chunar and Sone River
9.	Sone Dam - Southern Tributaries of Ganga link	Bihar and Jharkhand	Draft FR completed	Sone river
10.	Manas-Sankosh-Tista-Ganga (M-S-T-G) link	Assam, West Bengal (WB) and Bihar	FR completed	Manas, Sankosh, Tista, Mahananda, Ganga

11.	Jogighopa-Tista-Farakka link (Alternative to M-S-T-G)	Assam, WB and Bihar	PFR completed	The proposal has been dropped
12.	Farakka-Sundarbans link	WB	FR completed	Ganga, Hooghly, Bidyadhari
13.	Ganga(Farakka) - Damodar-Subarnarekha link	WB, Odisha and Jharkhand	FR completed	Ganga, Damodar, Subarnarekha
14.	Subarnarekha-Mahanadi link	WB and Odisha	FR completed	Subarnarekha & Mahanadi

1.2 The detailed particulars of the Ramjal Setu Link Project (Revised Parvati-Kalisindh-Chambal Link), an inter-state project of Rajasthan and Madhya Pradesh; the details of the financial resources provided by the Union Government for this project; and the quantity of water to be utilized in this project along with the extent of area and population to be benefitted and if so, the details thereof?

With a view to optimize the utilization of water of the Chambal River System and based on deliberations held with the State Governments of Rajasthan and Madhya Pradesh (MP) at various platforms, a proposal for the Modified Parvati-Kalisindh-Chambal (Modified PKC) link project has been framed, incorporating therein the components as proposed by the Government of MP in Kuno, Parvati and Kalisindh sub-basins along with the components of ERCP, as proposed by the Government of Rajasthan. The Modified PKC link project has been declared as a priority Interlinking of Rivers (ILR) project under the National Perspective Plan (NPP) and a Memorandum of Agreement (MoA) for implementation of the link project has been signed in December, 2024 amongst the States of Rajasthan and MP and the Government of India.

As per the MoA, there shall be an equal exchange of water in Kuno and Parvati sub basins at 75% dependability between the two States. About 116 Million Cubic Meter (MCM) of surplus water in Kuno Sub-basin from Rajasthan portion shall be utilized by the State of MP in Kuno sub- basin, while an equal quantum of water at 75% dependability shall be utilized by the State of Rajasthan for diversion from Mahalpur barrage for Eastern Rajasthan Canal Project from the share of MP in the free catchment portion of Parvati sub-basin. The State of MP shall utilize additional water in Upper Chambal basin (about 450 MCM) through five projects identified under the Modified PKC link corresponding to water available at 75 % dependability at these project locations. The equal quantum of water so utilized by MP through five projects in Upper Chambal basin, shall be transferred from Kalisindh sub-basin to Gandhisagar reservoir at more than 75 % success rate, on substitution basis.

As per the MoA, the envisaged project aims to provide benefits to the State of MP by extending annual irrigation to a command area of about 6 lakh hectares (ha) by utilizing about 1815 MCM of water and drinking water supply of about 71 MCM of water to the districts of Shivpuri, Gwalior, Bhind, Morena, Sheopur, Shajapur, Agar Malwa, Rajgarh, Sehore, Guna, Ratlam, Mandsaur, Ujjain, Dhar and Dewas including Malwa region. In Rajasthan, the link project is envisaged to provide drinking water (about 1744 MCM) to a targeted population of 21 districts of Eastern Rajasthan, viz; Jhalawar, Baran, Kota, Bundi, Tonk, Sawai Madhopur, Gangapur City, Dausa, Karauli, Dholpur, Bharatpur, Deeg, Alwar, Khairthal-Tijara, Kotputali - Behror, Jaipur urban, Jaipur rural, Dudu, Ajmer, Beawar, Kekri and en-route towns, tanks and villages as

well as to meet the industrial water demand of about 205 MCM of water for Delhi-Mumbai Industrial Corridor (DMIC) and other industries in the region. There is also a provision of about 1360 MCM of water for 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 two States are presently finalizing the projects for submitting it to the Central Government.

No financial resources have been provided for this link project by the Government of India so far.

1.3 Whether the Government proposes to connect 11 major and minor rivers in western part of the country; if so, the details thereof along with the names of rivers selected for the said purpose; the total amount of expenditure is likely to be incurred on the said project and the funds sanctioned/released for the purpose; whether the Detailed Project Report (DPR) has been prepared by the Government for the project and if so, the details thereof; whether the Government has signed any Memorandum of Understanding (MoU) with respective State Governments regarding the said project and if so, the details thereof; and the extent to which this project would be helpful in solving the water problem in water scarce States of western India?

In 1980, the Government of India formulated a National Perspective Plan (NPP) for the Inter linking of Rivers (ILR) for transferring water from surplus basins to deficit basins/areas. 30 link projects have been identified under the NPP with two components, viz; Himalayan Component (14 link projects) and Peninsular Component (16 link projects).

There are 5 ILR projects under the NPP, in the western part of the country, viz; Yamuna- Rajasthan link, Rajasthan-Sabarmati link, Modified Parbati-Kalisindh-Chambal (Modified PKC) link, DamangangaPinjal link and Par-Tapi-Narmada link. The details of these projects along with the status of preparation of the Detailed Project Report (DPR)/ Feasibility Report (FR)/ Pre-Feasibility Report (PFR) of these projects, the States benefitted, irrigation, industrial and domestic water supply benefits of the projects and rivers to be interlinked therein are given at **Annexure-II.**

The above 5 ILR projects in the western part of the country have not yet reached the stage of implementation, as it is for the party States to reach a consensus for implementation of the respective ILR projects. Sanction/release of funds to the projects would arise when these projects reach the stage of implementation. The estimated cost of the projects is given at **Annexure-III.**

DETAILS AND BENEFITS OF 5 ILR PROJECTS IN THE WESTERN PART OF THE COUNTRY

Sl. No	Name of the Link	States benefitted	Annual Irrigation [lakh hectare (ha)]	Domestic and Industrial [Million Cubic metre (MCM)]	Hydro Power [Mega watt (MW)]	Status DPRs/ FRs/ PFRs	Rivers
1.	Yamuna – Rajasthan Link	Haryana and Rajasthan	2.51 (0.11 + 2.40)	30	--	FR completed	Yamuna
2.	Rajasthan – Sabarmati link	Rajasthan and Gujarat	11.53 (11.21+0.32)	102	--	FR completed	Luni, Sukri, Sagi, Bandi and Sukal Banas
3.	Modified Parbati-Kalisindh-Chambal link project	Rajasthan and Madhya Pradesh	Benefits to States are detailed below this table			FR completed	Parbati, Kalisindh, Chambal, Kul, Banas, Mej, Kuno, Chamla, Shipra, Lakhunder and Newaj
4.	Damanganga - Pinjal link	Maharashtra	--	895	5	FR completed	Damanganag a, Pinjal
5.	Par-Tapi-Narmada link	Gujarat	2.27	76	21	FR completed	Par, Tapi and Narmada
		Maharashtra	0.05	--	--		

Other details of the above ILR projects are as under:

- Yamuna – Rajasthan Link project:** The Yamuna-Rajasthan link is envisaged to offtake from the proposed Yamuna barrage in Haryana State and will terminate in the Jaisalmer district of Rajasthan State. Bhiwani district of Haryana and the desert areas of Hanumangarh, Bikaner and Jaisalmer districts of Rajasthan benefit from this link canal. The link canal is to provide for 2.51 lakh hectares (ha) of Annual irrigation (0.11 lakh ha in Haryana and 2.40 lakh ha in Rajasthan and 30 Million Cubic Meters (MCM) of water for en-route domestic needs).
- Rajasthan-Sabaramati link project:** The Rajasthan-Sabaramati link canal is the extension of the Yamuna-Rajasthan link canal and it offtakes from the Jaisalmer district of Rajasthan and terminates at Banaskantha district of Gujarat State. The link project provides Annual irrigation for 11.53 lakh ha of total area (11.21 lakh ha in Rajasthan and 0.32 lakh ha in Gujarat) and a Domestic Water supply of 102 MCM (97 MCM in Rajasthan and 5 MCM in Gujarat).
- Modified PKC link project:** The draft PFR of the Modified PKC link and a draft Memorandum of Understanding (MoU) for preparing the DPR of the Modified PKC link was circulated to both States in January 2023. The persistent efforts of Govt. of India have led to the 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 followed by the signing of Memorandum of Agreement (MoA) on 05.12.2024 amongst the States of Rajasthan and MP and the Government of India. The project is envisaged to provide benefits to MP extending annual irrigation to command area of about 6 lakh hectares (ha) by utilizing about 1815 Million Cubic Meter (MCM) of water and drinking water supply of about 71 MCM of water to the districts of Shivpuri, Gwalior, Bhind, Morena, Sheopur, Shajapur, Agar Malwa, Rajgarh, Sehore, Guna, Ratlam, Mandsaur, Ujjain, Dhar and Dewas including Malwa region. In Rajasthan, the link project is planned to provide drinking water (about 1744 MCM of water) to targeted population of 21 districts of Eastern Rajasthan (Jhalawar, Baran, Kota, Bundi, Tonk, Sawai Madhopur, Gangapur city, Dausa, Karauli, Dholpur, Bharatpur, Deeg, Alwar, Khairthal-Tijara, Kotputali - Behror, Jaipur urban, Jaipur rural, Dudu, Ajmer, Beawar, Kekri) and en-route towns, tanks and villages as well as to meet industrial water demand of about 205 MCM of water for Delhi-Mumbai Industrial Corridor (DMIC) and other industries. There is also a provision of about 1360 MCM of water for 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.

4. **Damanganga-Pinjal Link** envisages diversion of water from Bhigad [(7.441 Thousand Million Cubic Feet (TMC)] dams in Damanganga river basin to Vaitarna river basin, which will make an additional 1586 MLD (20.44 TMC) of water will be available from Pinjal dam in Vaitarna river basin. Thus, total of 31.60 TMC of water will be available for water supply to Mumbai city.
5. **Par-Tapi-Narmada Link Project** envisages utilization of 46.96 TMC of surplus water of Par, Auranga, Ambica and Purna river basins for utilization in enroute irrigation and to meet drinking water needs in the vicinity of the project. This project will also take over a part of the commands area of the existing Miyagam Branch canal of Narmada canal system so that water saved in Sardar Sarovar Project could be taken further northwards to benefit water scarce areas of Saurashtra and Kutch regions in Gujarat.

Annexure-III

Estimated Cost of the ILR project in the western part of the country

S.No.	Name of Link	Project Cost (Rs. in crore)
1.	Yamuna-Rajasthan link	Rs. 33,744.64 at Price Level (PL) of 2020-21
2.	Rajasthan-Sabarmati link	Rs. 25,299.39 at PL of 2019-20
3.	Modified Parbati-Kalisindh -Chambal link project	-
4.	Damanganga-Pinjal link	Rs. 3,008 at PL of 2015-16
5.	Par-Tapi-Narmada link	Rs. 10,211 at PL of 201-15

1.4 Whether the scheme to connect rivers across the country is in its final stages; if so, the details thereof indicating the current status and implementation of the said scheme, State-wise along with the benefits to be provided to Bagpat in Uttar Pradesh under the same; and if not, the reasons for the delay in implementation of the said scheme?

The Government of India formulated a National Perspective Plan (NPP) for the Inter-linking of Rivers (ILR) for transferring water from surplus basins to deficit

basins/areas in 1980. National Water Development Agency (NWDA) has been entrusted with the work of Interlinking of Rivers under the NPP. 30 link projects have been identified under the NPP with two components, viz; Himalayan Component (14 ILR projects) and Peninsular Component (16 ILR projects). Detailed Project Reports (DPRs) of 11 ILR projects, Feasibility Reports (FRs) of 26 ILR projects, and Pre-Feasibility Reports (PFRs) of 30 ILR projects have been completed. Latest status of ILR Projects along with benefits of these projects to the various States including Uttar Pradesh is enclosed at **Annexure IV**.

The Government of India has given top priority to the ILR programme and has been pursuing the programme in a consultative manner. Concerted efforts have been made at various levels for consensus building amongst the party States for implementation of the matured ILR projects. A Special Committee on Interlinking of Rivers (SCILR) has been constituted in September, 2014 for the implementation of ILR programme. 21 meetings of the SCILR have been held so far. Further, a Task Force for Interlinking of Rivers (TFILR) has been constituted in April, 2015 and 20 meetings of the same have been held so far. States have wide representation and participation in these meetings, wherein concerted efforts are made for consensus building amongst the party States and for setting out road maps for implementation of the ILR projects. It is, however, for the party States to reach a consensus for implementation of an ILR project.

Ken-Betwa link project (KBLP) is the first ILR project under the NPP, implementation of which has started after the party States reached a consensus and signed a Memorandum of Agreement for its implementation in March, 2021 and subsequently the project got approved by the Government of India in December, 2021. The project is envisaged to provide an annual irrigation to an area of 10.62 lakh hectares (ha) including 8.11 lakh ha in Madhya Pradesh (MP) and 2.51 lakh ha in Uttar Pradesh (UP). The project will also generate 103 Megawatt (MW) of hydropower and 27 MW of solar power. Initial focus is on land acquisition and Rehabilitation and Resettlement.

Annexure-IV

DETAILS OF BENEFITS FROM ILR PROJECTS UNDER THE NPP **Peninsular Component**

Sl. No	Name	States benefited	Annual Irrigation (Lakh ha)	Domestic and Industrial (Million Cubic)	Hydro power (MW)	Status
1	Mahanadi (Manibhadra) - Godavari (Dowlaiswaram) link	Andhra Pradesh (AP) and Odisha	4.43	802	445	FR completed
	Alternate Mahanadi (Barmul) - Rushikulya - Godavari (Dowlaiswaram) link	AP and Odisha	6.25 (0.91 + 3.52 + 1.82*)	700 + 125*	210 + 240*	FR completed
2	Godavari (Polavaram) Krishna (Vijayawada) link@@	AP	2.1	162	--	FR completed

3	a.)Godavari (Inchampalli) Krishna (Nagarjunasagar) link	Telangana	2.87	237	975+ 70= 1045	FR completed
	b.) Alternate Godavari (Inchampalli) – Krishna (Nagarjunasagar) link **	Telangana	2.38	232	26	DPR completed
4	Godavari (Inchampalli/SSMPP) –Krishna (Pulichintala) link	Telangana and AP	4.74 (0.36+4.38)	346	90	DPR completed
5	a.) Krishna (Nagarjunasagar) – Pennar(Somasila) link	AP	5.81	124	90	FR completed
	b.) Alternate Krishna (Nagarjunasagar) – Pennar (Somasila) link **	AP	1.71	236	40	DPR completed
6	Krishna (Srisailem) – Pennar link	AP	1.79	58	11	Draft DPR completed
7	Krishna (Almatti) – Pennar link	Karnataka	0.69	467	--	Draft DPR completed
		AP	1.57	29.83		
8	a.) Pennar (Somasila) - Cauvery (Grand Anicut) link	AP, Tamil Nadu and Puducherry	4.91 (0.49+ 4.36 +0.06)	1105	--	FR completed
	b.) Alternate Pennar (Somasila) Cauvery (Grand Anicut) link **	AP	0.51	43		DPR completed
		Tamil Nadu	1.14	618		
		Puducherry	--	62		
9	Cauvery (Kattalai) - Vaigai -Gundar link	Tamil Nadu	4.48	218	--	DPR completed
10	a) Parbati – Kalisindh- Chambal link	Madhya Pradesh (MP) and Rajasthan	Alt.I =2.30 Alt.II = 2.20	- 13.2	--	FR completed
	b)Modified Parbati – Kalisindh-Chambal link (duly integrated with ERCP)	MP and Rajasthan	3.38 (as per draft PFR) MP – 2.58 Rajasthan- 0.8	As per draft PFR: Rajasthan- Domestic- 1723 MCM Industrial- 286 MCM MP-	-	Draft PFR completed
11	Damanganga - Pinjal link	Maharashtra (only water supply to Mumbai)	--	895	5	DPR completed
12	Par-Tapi-Narmada link	Gujarat	2.28	76	21	DPR completed
		Maharashtra	0.04	--	--	

13	Ken-Betwa link	Uttar Pradesh (UP) and Madhya Pradesh	10.62 (2.51 +8.11)	194	103 MW (Hydro) & 27MW (Solar)	DPR completed & project is under implementation
14	Pamba - Achankovil - Vaippar link	Tamil Nadu Kerala	0.91	--	3.87 504.5	FR completed
15	Bedti - Varda link@	Karnataka	1.05	38	----	DPR completed
16	Netravati – Hemavati link***	Karnataka	0.34	--	--	PFR completed

* Benefit to Odisha from Six Projects of Govt. of Odisha

** Due to pending consensus on Manibhadra and Inchampalli dams, Alternate study to divert unutilized waters of Godavari river was carried out and DPR of Godavari (Inchampalli/ Janampet) – Krishna (Nagarjunasagar) - Pennar (Somasila) – Cauvery (Grand Anicut) link projects completed. Godavari-Cauvery (Grand Anicut) link project has been prepared comprising of Godavari (Inchampalli / Janampet) - Krishna (Nagarjunasagar), Krishna (Nagarjunasagar)- Pennar (Somasila) and Pennar(Somasila)-Cauvery (Grand Anicut) link projects. The report was further updated terminating the link link canal at Manimukhtanadi, a tributary of Vellar river flowing adjacent of Cauvery basin.

@ Bedti – Varda Link- DPR was prepared directly after preparation of its PFR, no FR was prepared.

@@ Godavari (Polavaram)- Krishna (Vijayawada) Link- the project has been taken up by Govt. of Andhra Pradesh.

*** Further studies are not taken up since after implementation of Yettinahole project by Govt. of Karnataka, no surplus water is available in Netravati basin for diversion through this link.

Note: For PKC link at Serial no.10 (a): Alt I- Linking with GandhisagarDam, Alt. II- Linking with Rana Pratap Sagar Dam

Himalayan Component

Sl. No	Name	States / Countries benefited	Annual Irrigation (Lakh ha)	Domestic & Industrial (MCM)	Hydro power (MW)	Status
1.	Kosi-Mechi link	Bihar and Nepal	4.74 (2.99+1.75)	24	3180	PFR completed
2.	Kosi-Ghaghra link	Bihar, UP and Nepal	8.35 (6.05+1.20 +1.10)	0	--	FR completed
3.	Gandak - Ganga link	UP and Nepal	34.58 (28.80+5.78)	700	4375 (Dam PH) & 180 (Canal PH)	FR completed and circulated
4.	Ghaghra Yamuna link	UP and Nepal	27.84 (25.30 + 2.54)	1391	10884	Draft FR completed
5.	Sarda - Yamuna link	UP and Uttarakhand	2.95 (2.65 + 0.30)	3054	6620	FR completed
6.	Yamuna-Rajasthan link	Haryana and Rajasthan	2.51 (0.11+ 2.40)	30	--	FR completed
7.	Rajasthan-Sabarmati link	Rajasthan and Gujarat	11.53 (11.21+0.32)	102	--	FR completed
8.	Chunar-Sone Barrage link	Bihar and UP	0.67 (0.13 + 0.54)	--	--	Draft FR completed
9.	Sone Dam - Southern Tributaries of Ganga link	Bihar and Jharkhand	3.07 (2.39 + 0.68)	360	95(90 Dam PH) & 5 (Canal PH)	Draft FR completed

10.	Manas-SankoshTista-Ganga (M-ST-G) link	Assam, West Bengal (WB) and Bihar	3.41 (2.05 + 1.00 + 0.36)	--	--	FR completed
11.	Jogighopa-Tista-Farakka link (Alternative to M-S-T-G)	Assam, WB and Bihar	3.559 (0.975+ 1.564+ 1.02)	265	360	PFR completed (The proposal has been dropped)
12.	Farakka-Sundarbans link	WB	1.50	184	--	FR completed
13.	Ganga(Farakka) - Damodar-Subarnarekha	WB, Odisha and Jharkhand	12.30(11.18+ 0.39+ 0.73)	432	--	FR completed
14.	Subarnarekha-Mahanadi link	WB and Odisha	2.16 (0.18+ 1.98)	198	20	FR completed

1.5 The terms on which the Memorandum of Understanding (MoU) between Rajasthan and Madhya Pradesh was signed for the Eastern Rajasthan Canal Project (ERCP) renamed as PKCERCP by the Government; the share of water earmarked for Rajasthan and Madhya Pradesh under the said project along with the reasons, if any, for the decline in the share of Rajasthan; the details of quantum of work completed so far along with the incomplete work under the said project and the timeline fixed for its completion; the details of the areas of Rajasthan likely to be benefitted from the said project; and whether the said project is likely to provide adequate water to the industrial areas, especially the dark zone blocks of Rajasthan including Dausa Parliamentary Constituency?

The Eastern Rajasthan Canal Project (ERCP) was proposed as a standalone project by the Government of Rajasthan. However, with a view to optimize the utilization of water of the Chambal River System and based on the deliberations held with the State Governments of Rajasthan and Madhya Pradesh (MP) at various platforms, a proposal for the Modified Parbati-Kalisindh-Chambal (Modified PKC) link project has been framed, incorporating therein the components as proposed by the Government of MP in Kuno, Parbati and Kalisindh sub-basins along with the components of ERCP, as proposed by the Government of Rajasthan. A Memorandum of Understanding (MoU) was signed amongst the States of Rajasthan and MP and the Government of India, for preparation of the Detailed Project Report (DPR) of the Modified PKC link project on 28.01.2024, followed by signing of a Memorandum of Agreement (MoA) on 05.12.2024 for implementation of the link project. As per the MoA, a total of 4102.60 Million Cubic Meter (MCM) of water would be available to the State of Rajasthan and 3120.09 MCM of water to the State of MP. As per the MoA, both the States shall be responsible for the implementation of their respective components in a time bound manner after taking requisite statutory clearance(s) for their implementation.

As intimated by the Government of Rajasthan, the work of Navnera Barrage has been completed, while the work of Isarda Dam is scheduled to be completed later this year and construction works of Ramgarh barrage, Mahalpur barrage, Pump house at Navnera Barrage, and feeder system from Navnera pump house to Bisalpur dam and Isarda dam via Mej anicut and Galwa dam, aqueduct across Chambal river are scheduled to be completed by 2028.

The project is envisaged to, inter alia, provide for drinking water to the targeted population of 21 districts of Eastern Rajasthan (Jhalawar, Baran, Kota, Bundi, Tonk,

Sawai Madhopur, Gangapur City, Dausa, Karauli, Dholpur, Bharatpur, Deeg, Alwar, Khairthal-Tijara, Kotputali - Behror, Jaipur urban, Jaipur rural, Dudu, Ajmer, Beawar, Kekri) and en-route towns, tanks and villages as well as 205 MCM of water to meet the industrial water demands of the Delhi-Mumbai Industrial Corridor (DMIC) and other industries, besides providing water for 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 the State of Rajasthan.

1.6 The details of the total number of river-linking projects under construction, completed and presently functional across the country, State-wise, especially in Andhra Pradesh; the total amount of funds allocated and utilized for the said purpose during the last five years and the current year, project-wise, especially in Andhra Pradesh; the proposed timeline for completion of pending river linking projects across the country, especially those in Andhra Pradesh; and the details of the total benefits that would be derived on the completion of all river-linking projects across the country?

The Government of India formulated a National Perspective Plan (NPP) for the Inter-linking of Rivers (ILR) for transferring water from surplus basins to deficit basins/areas in 1980. National Water Development Agency (NWDA) has been entrusted with the work of Interlinking of Rivers under the NPP. 30 link projects have been identified under the NPP with two components, viz; Himalayan Component (14 ILR projects) and Peninsular Component (16 ILR projects). Detailed Project Reports (DPRs) of 11 ILR projects, Feasibility Reports (FRs) of 26 ILR projects, and Pre-Feasibility Reports (PFRs) of 30 ILR projects have been completed.

As this rigorous process demands a consensus among the party States; therefore, out of 30 ILR projects under the NPP, the implementation of only one project i.e. Ken-Betwa Link Project (KBLP) has been started so far. No ILR Project involving the State of Andhra Pradesh has reached the stage of implementation.

The status of funds allocated and utilized for KBLP is given at **Annexure V**. A total expenditure of Rs. 8023.37 crore has been incurred by the Government of India on KBLP till 31.12.2024.

The Memorandum of Agreement (MoA) for KBLP were signed by the party States in March, 2021 and subsequently in December, 2021 the Union Cabinet approved the proposal for implementation of the project at an estimated cost of Rs. 44,605 crore, with a Central Support of Rs. 39,317 crore. The project is planned to be completed in by March 2030.

For other ILR projects, the schedule of completion would depend upon the party States arriving at a consensus for the respective link projects and signing the link specific MoAs for their implementation.

Status and benefits of ILR Projects is given at **Annexure-I**. (Which is attached in Lok Sabha Question No. 1.4)

THE STATUS OF FUNDS ALLOCATED AND UTILIZED FOR KBLP

Year	Budget allocated (Rs. in crore)	Expenditure (Rs. in crore)
2021-22	4644.46	4639.46
2022-23	1400	622.42
2023-24	3500	1392.37
2024-25	4000	1369.12 (till 31.12.2024)

1.7 Whether the Government is considering any special scheme for inter-linking of rivers in the country; if so, the details thereof; whether any flaws have been detected in the previously implemented schemes and if so, the details thereof; whether Bihar has to bear the brunt of the catastrophic flood water released into the rivers from outside every year; and if so, the details thereof indicating the rivers in Bihar proposed to be inter-linked under the scheme along with the time by which it is likely to be completed?

The Government of India formulated a National Perspective Plan (NPP) for Inter-linking of Rivers (ILR) for transferring water from surplus basins to deficit basins/areas in 1980. National Water Development Agency (NWDA) has been entrusted with the work of Interlinking of Rivers under the NPP. 30 ILR projects have been identified under the NPP with two components, viz; Himalayan Component (14 projects) and Peninsular Component (16 projects). Detailed Project Reports (DPRs) of 11 link projects, Feasibility Reports (FRs) of 26 link projects and Pre-Feasibility Reports (PFRs) of 30 link projects have been completed. Details of the status of ILR projects under the NPP are given at **Annexure-I** (Same as attached in Lok Sabha Question No. 1.1)

Ken-Betwa Link Project (KBLP) is the first ILR project under the NPP, implementation of which has started after the approval accorded by the Union Cabinet in December, 2021. The project is planned to be completed by March 2030.

The State of Bihar bears the brunt of floods is on account of increased discharge in rivers of North Bihar like Gandak, Burhi Gandak, Bagmati, Kamla, Kosi, and Mahananda due to heavy rainfall in the upper catchment areas, which mainly lie in Nepal.

Under the NPP, six ILR projects benefit the State of Bihar. Apart from this, ten intra-State link proposals were also received by NWDA from the Government of Bihar. PFRs of these ten intra-State links were prepared by the NWDA, out of which, three links have been found technically feasible. Details of ILR and the three intra-State link projects found technically feasible, concerning the State of Bihar are attached in **Annexure - VI.**

For ILR projects, the schedule of completion depends upon the party States arriving at a consensus for the respective ILR projects and signing of the link specific Memorandum of Agreements (MoAs) for their implementation.

As for the intra-State links, techno-economic viability in respect of Kosi-Mechi intra-State link project has been accepted by the Advisory Committee of Department of Water Resources, River Development and Ganga Rejuvenation (DoWR, RD&GR) in its meeting held on 08.03.2024 for an estimated cost of Rs. 6,282.32 crores, at Price Level 2022-23. Investment clearance for the project has been subsequently accorded by the DoWR, RD & GR and thereafter, the project has been duly recommended by the Public Investment Board (PIB) in its meeting held on 21.11.2024 for inclusion of the project under the Pradhan Mantri Krishi Sinchai Yojana - Accelerated Irrigation Benefit Programme (PMKSY-AIBP).

Further, as per the information available, three numbers of intra-State link projects, viz; Bagmati - Burhi Gandak River Link (Belwadhar), Bagmati- Burhi Gandak (Shanti Dhar) and Gandak- Akali Nala (Chhadi) – Gandaki – Mahi - Ganga link are under execution by the Government of Bihar and these projects are scheduled to be completed by 2025.

ANNEXURE-VI

DETAILS OF ILR PROJECTS CONCERNING BIHAR

Sl.No	Name	States / Countries benefited	Status
1.	Kosi-Mechi ILR project	Bihar and Nepal	PFR completed
2.	Kosi - Ghaghra link	Bihar, UP and Nepal	FR completed
3.	Chunar-Sone Barrage link	Bihar and UP	Draft FR completed
4.	Sone Dam - Southern Tributaries of Ganga link	Bihar and Jharkhand	Draft FR completed
5.	Manas-Sankosh-Tista-Ganga (M-S-T-G) link	Assam, WB and Bihar	FR completed
6.	Jogighopa-Tista-Farakka link (Alternative to M-ST-G)	Assam, WB and Bihar	PFR completed (The proposal has been dropped)

DETAILS OF INTRA-STATE LINK PROPOSALS RECEIVED FROM GOVERNMENT OF BIHAR, WHICH WERE FOUND FEASIBLE

S.No	Name of Intra-State link	Rivers	Present status of PFR /DPR
1.	Kosi-Mechi intra-State link[entirely lies in India]	Kosi and Mechi	DPR completed.
2.	Burhi Gandak- Noon- Baya-Ganga	Burhi Gandak ,Noon, Baya and Ganga	DPR completed,.
3.	Kosi – Ganga	Kosi and Ganga	PFR completed

1.8 The current status of the National River Interlinking Project and the details of the rivers successfully linked so far; the steps taken/being taken by the Government to address the environmental concerns and potential displacement of communities due to the river interlinking initiative; the details of the budget allocated for the river linking project this year and its projected impact on water supply management; the manner in which the Government is ensuring that the interlinking of rivers does not adversely

affect the ecology and biodiversity of the regions involved; and the timeline for the completion of the river interlinking project along with the way in which the Government is planning to monitor its long-term effectiveness in addressing water scarcity?

The Government of India formulated a National Perspective Plan (NPP) for the Inter-linking of Rivers (ILR) for transferring water from surplus basins to deficit basins/areas in 1980. National Water Development Agency (NWDA) has been entrusted with the work of Interlinking of Rivers under the NPP. 30 link projects have been identified under the NPP with two components, viz; Himalayan Component (14 ILR projects) and Peninsular Component (16 ILR projects). Detailed Project Reports (DPRs) of 11 ILR projects, Feasibility Reports (FRs) of 26 ILR projects, and Pre-Feasibility Reports (PFRs) of 30 ILR projects have been completed. The present status of the link projects and rivers is given at **Annexure I**. (Same as Question No. 1.1 in Lok Sabha)

For every river linking project, detailed Environmental Impact Study (EIS) is carried out at the stage of preparation of the FRs and DPRs. Environmental Impact Assessment (EIA) study is undertaken to identify positive and negative impacts of the project on physical, biological and socio-economic environment. Detailed study on soil type, climate type, ground water quality, biological environment, floral diversity, Forests and Wildlife, ground water Recharge, Change of hydrological regime of river, Public health aspects, Employment Potential generated, Project affected families, Submergence area etc. and other socio-economic characteristics is undertaken at the stage of preparation of DPRs along with proposal for the Environment Management Plan to mitigate the assessed impacts.

The Ken-Betwa Link Project (KBLP) is first and only ILR project under the NPP, implementation of which has started after the approval by the Union Cabinet in December, 2021. During the current Financial Year (FY) 2024-25, a budget allocation of Rs. 4000 crores have been kept for the project. The project is envisaged to, inter alia, provide water for an annual irrigation of 10.62 lakh hectare (ha) and for domestic water supply to a population of 62 lakhs in the States of Madhya Pradesh (MP) and Uttar Pradesh (UP).

The Government of India has given top priority to the ILR programme and has been pursuing the programme in a consultative manner. Concerted efforts have been made at various levels for consensus building amongst the party States for implementation of the matured ILR projects. A Special Committee on Interlinking of Rivers (SCILR) has been constituted in September, 2014 for the implementation of ILR programme. 21 meetings of the SCILR have been held so far. Further, a Task Force for Interlinking of Rivers (TFILR) has been constituted in April, 2015 and 20 meetings of the same have been held so far. States have wide representation and participation in these meetings, wherein concerted efforts are made for consensus building amongst the party States and for setting out road maps for implementation of the ILR projects. It is, however, for the party States to reach a consensus on critical issues like water sharing, etc, to take an ILR project forward to the implementation stage and the schedule and timelines for completion of the ILR projects would arise only at the implementation stage. As on date, only one ILR project, namely the KBLP, is under implementation and is scheduled to be completed by March, 2030.

Rajya Sabha

1.1 Details of status of the project regarding interlinking of rivers in the country at present, including interlinking of Godavari, Cauvery, Palar rivers, etc.; whether any Committee has been constituted by Government in this regard; if so, details thereof including the report if any, submitted by the said Committee, and if not, the reasons therefor; the action taken by Government to initiate work on each of the said projects, project wise, including interlinking of Godavari, Cauvery, Palar rivers, etc.; whether Government has earmarked any funds for this project; and if so, details thereof, and if not the reasons therefor?

In 1980, the Government of India formulated a National Perspective Plan (NPP) for Interlinking of Rivers (ILR) for transferring water from surplus basins to deficit basins/areas. The National Water Development Agency (NWDA) has been entrusted with the work of the ILR under the NPP. NWDA has identified 30 links (16 under Peninsular Component and 14 under Himalayan Component) under the NPP. Detailed Project Reports (DPRs) of 11 link projects, Feasibility Reports (FRs) of 26 links and PreFeasibility Reports (PFRs) of all the 30 links have been completed. The detailed status of ILR Projects under the NPP are given at **Annexure-I**. (Same as Question No. 1.1 in Lok Sabha)

Government of India is pursuing the ILR programme in a consultative manner and has accorded top priority to it. Concerted efforts at various levels have been made to build necessary consensus amongst the party States, for implementation of various ILR projects. Further, on the direction of the Hon'ble Supreme Court, the Government of India constituted a Committee called the Special Committee for Interlinking of Rivers (SCILR) under the chairmanship of the Minister of Jal Shakti in September, 2014. SCILR reviews the progress of ILR projects regularly and State representatives discuss their viewpoints during the meetings to sort out their apprehensions related to various ILR projects. The SCILR has held 22 meetings so far. The Union Cabinet is apprised of the progress report of the SCILR. Further, a Task Force for Interlinking of Rivers (TFILR) has also been constituted for assisting the SCILR in expediting the works under ILR Programme. The TFILR has held 20 meetings so far and has made concerted efforts for building consensus for various ILR projects in consultation with the respective States.

Further, the Government of India has identified 5 ILR projects under the NPP as priority links, viz; Ken-Betwa Link Project (KBLP), Modified Parbati-Kalisindh-Chambal (Modified PKC) Link Project and 3 links under Godavari-Cauvery Link Project {Godavari (Inchampalli)-Krishna (Nagarjunasagar) link, Krishna (Nagarjunasagar)-Pennar (Somasila) link and Pennar (Somasila)-Cauvery link}.

The KBLP is the first link project under the National Perspective Plan, the implementation of which started after the party States reached a consensus and signed a Memorandum of Agreement (MoA) in March 2021 and subsequent approval by the Union Cabinet in December 2021 for implementation of the project at an estimated cost of Rs. 44,605 crore, with a central support of Rs. 39,317 crore. The project is scheduled to be completed by March, 2030. Further, a Memorandum of Agreement (MoA) has also been signed recently by the States of Madhya Pradesh and Rajasthan and the Union of India for implementation of the Modified PKC Link Project.

Regarding the interlinking of rivers Godavari, Cauvery, etc, the NPP, *inter alia*, includes proposals for linking of rivers Manas, Sankosh, Tista, Ganga, Damodar, Subernarekha, Mahanadi, Godavari, Krishna, Pennar, Cauvery, Vaigai and Gundar. The Manas-Sankosh-Tista-Ganga-Damodar-Subernarekha-Mahanadi linkage system envisages providing water to Mahanadi and thereafter, the Mahanadi-Godavari-Krishna Pennar-Cauvery-Vaigai-Gundar linkage system to provide water to the down South.

Pending consensus on the Mahandi-Godavari link and the upper links, about 4189 Million Cubic Meters (MCM) of unutilized waters of the Indravati sub-basin of Chhattisgarh State has been envisaged (as per the NPP) to be diverted through the Godavari (Inchampalli)-Cauvery link, for providing irrigation benefits to about 5.74 lakh hectares (ha) area, including supplementation of existing commands, in the States of Telangana, Andhra Pradesh and Tamil Nadu. The enroute demands of domestic & industrial needs of these three States and the Union Territory (UT) of Puducherry, including the domestic and industrial needs of the Malaprabha sub-basin in Karnataka have also been considered in the project.

The modified Detailed Project Report (DPR) has been prepared by NWDA and circulated to the party States/ UT in January, 2024. Efforts have been made to build the necessary consensus amongst the party States/ UT for implementation of the project and it is for the party States/ UT of Puducherry to reach a consensus in the matter.

Allocation of funds and their utilization arises after an ILR project reaches the stage of implementation, after the party States arrive at a consensus and sign an MoA for implementation of the said project. As for the Godavari-Cauvery link project, it is for the party States/ UT of Puducherry to reach a consensus for its implementation. Further, KBLP is the first and only ILR project under the NPP, which has reached the stage of implementation. The project has an estimated cost of Rs. 44,605 crore, with a central support of Rs. 39,317 crore. An expenditure of Rs. 8023.37 crore has been incurred by the Government of India on KBLP till 31.12.2024. The status of funds allocated by the Government of India and utilized for KBLP is given at **Annexure –V** (Same as Question No. 1.6 in Lok Sabha).

1.2 Whether Government has considered interlinking of rivers in the State of Odisha to address water scarcity and improve irrigation; if so, the details of the proposed river interlinking projects in the State; the estimated costs and timelines for implementation of these projects; and the steps being taken to address any environmental and social concerns related to these projects?

The Government of India formulated a National Perspective Plan (NPP) in the year 1980 to transfer water from surplus basins to water deficit basins / areas. National Water Development Agency (NWDA) has been entrusted with the work of Interlinking of Rivers (ILR) under the NPP. Thirty (30) ILR projects have been identified under the NPP, which, *inter alia*, include three (3) projects, envisaged to benefit the State of Odisha as well. The details of benefits of these three (3) ILR Projects along with their estimated cost are given at **Annexure I**.

Timelines / schedule of completion of ILR Projects depends upon the party States arriving at a consensus for the respective ILR projects and signing of the link specific Memorandum of Agreements (MoAs) for their implementation.

To address the environmental and social concerns, if any, related to the ILR projects, detailed Environmental Impact Study (EIA) is done at the stage of preparation of FRs and Detailed Project Reports (DPRs). EIA study is aimed at identifying positive and negative impacts of the project on physical, ecological and socio-economic environment. Detailed study on soil type, climate type, ground water quality, biological environment, floral diversity, forests and wildlife, ground water recharge, change of hydrological regime of river, public health aspects, employment potential generation, project affected families, submergence area, etc. is done at stage of preparation of DPRs along with a proposal for Environment Management Plan to mitigate the assessed impacts.

ANNEXURE-I

DETAILS OF BENEFITS OF ILR PROJECTS IN ODISHA UNDER THE NPP

Sl. No.	Name	States benefited	Annual Irrigation (Lakh hectare)	Domestic & Industrial (Million Cubic	Hydro power (Mega watt)	Estimated Cost	Status
1	a. Mahanadi (Manibhadra) Godavari (Dowlaiswaram)	Andhra Pradesh (AP) and Odisha	4.43	802	445	-	FR completed
	b. Alternate Mahanadi (Barmul) Rushikulya – Godavari (Dowlaiswaram) link	AP and Odisha	6.25 (0.91 + 3.52 + 1.82*)	700 +125*	210 + 240*	Rs. 54019 crores at the 2018-19 price level (PL)	FR completed
2.	Ganga(Farakka) - Damodar-Subarnarekha link	West Bengal (WB), Odisha and Jharkhand	12.30 (11.18+ 0.39+ 0.73)	432	--	Rs. 87166.01 crores at the 2019-20 PL	FR completed
3.	Subarnarekha-Mahanadi link	WB and Odisha	2.16 (0.18+ 1.98)	198	20	Rs. 28644 crore at the 2019-20 PL	FR completed

* Benefit to Odisha from 6 projects of Government of Odisha, envisaged to be integrated to Mahanadi (Barmul) – Godavari (Dowlaiswaram) link Project.

1.3 Whether Government proposes to connect 11 major and minor rivers in western part of the country; if so, the details thereof along with the names of rivers selected for the said purpose; the amount of expenditure likely to be incurred on the said project and the amount of funds sanctioned/released for the said purpose; whether the Detailed Project Report (DPR) has been prepared by Government for the said project and if so, the details thereof; and whether the Central Government has signed any MoU with respective State Government regarding the said project?

In 1980, the Government of India formulated a National Perspective Plan (NPP) for the Inter linking of Rivers (ILR) for transferring water from surplus basins to deficit basins/areas. 30 link projects have been identified under the NPP with two

components, viz; Himalayan Component (14 link projects) and Peninsular Component (16 link projects).

There are 5 ILR projects under the NPP, in the western part of the country, viz; Yamuna- Rajasthan link, Rajasthan-Sabarmati link, Modified Parbati-Kalisindh-Chambal (Modified PKC) link, DamangangaPinjal link and Par-Tapi-Narmada link. The details of these projects along with the status of preparation of the Detailed Project Report (DPR)/ Feasibility Report (FR)/ Pre-Feasibility Report (PFR) of these projects, the States benefitted and rivers to be interlinked therein are given at **Annexure-II**.

The above 5 ILR projects in the western part of the country have not yet reached the stage of implementation, as it is for the party States to reach a consensus for implementation of the respective ILR projects. Sanction/ release of funds to the projects would arise when these projects reach the stage of implementation. The estimated cost of the projects are given at **Annexure-IV**. (Same as Question No. 1.4 in Lok Sabha)

ANNEXURE-II

DETAILS OF 5 ILR PROJECTS IN THE WESTERN PART OF THE COUNTRY

Sl.No.	Name of the Link	States benefitted	Status DPRs/FRs/ PFRs	Rivers
1.	Yamuna - Rajasthan link	Haryana and Rajasthan	FR completed	Yamuna
2.	Rajasthan Sabarmati link	Rajasthan and Gujarat	FR completed	Luni, Sukri, Sagi, Bandi and Sukal Banas
3.	Modified Parbati-Kalisindh-Chambal link project	Rajasthan and Madhya Pradesh	PFR completed	Parbati, Kalisindh, Chambal, Kul Banas, Mej, Kuno, Chamla, Shipra, Lakhunder, Newaj
4.	Damanganga-Pinjal link	Maharashtra	DPR completed	Damanganga, Pinjal
5.	Par-Tapi-Narmada link	Maharashtra and Gujarat	DPR completed	Par, Tapi and Narmada

Other details of the above ILR projects are as under:

1. Yamuna –Rajasthan link project: The Yamuna-Rajasthan link is envisaged to offtake from the proposed Yamuna barrage in Haryana State and will terminate in the Jaisalmer district of Rajasthan State. Bhiwani district of Haryana and the desert areas of Hanumangarh, Bikaner & Jaisalmer districts of Rajasthan benefit from this link canal. The link canal is to provide for 2.51 lakh hectares (ha) of Annual irrigation (0.11 lakh ha in Haryana and 2.40 lakh ha in Rajasthan) and 30 (Million Cubic Meters) (MCM) of water for en-route domestic needs).
2. Rajasthan-Sabarmati link project: The Rajasthan-Sabarmati link canal is the extension of the Yamuna-Rajasthan link canal and it offtakes from the Jaisalmer district of Rajasthan and terminates at Banaskantha district of Gujarat State. The link project provides Annual irrigation for 11.53 lakh hectares of total area

(11.21 lakh ha in Rajasthan and 0.32 lakh ha in Gujarat) and a Domestic Water supply of 102 MCM (97 MCM in Rajasthan and 5 MCM in Gujarat).

3. Modified PKC Link project: The draft PFR of the Modified PKC link and a draft Memorandum of Understanding (MoU) for preparing the DPR of the Modified PKC link was circulated to both States in January 2023. The persistent efforts of Govt. of India have led to the 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 followed by the signing of Memorandum of Agreement (MoA) on 05.12.2024 amongst the States of Rajasthan and MP and the Government of India.

The project is envisaged to provide benefits to MP extending annual irrigation to command area of about 6 lakh hectare (ha) by utilizing about 1815 Million Cubic Meter (MCM) of water and drinking water supply of about 71 MCM of water to the districts of Shivpuri, Gwalior, Bhind, Morena, Sheopur, Shajapur, Agar Malwa, Rajgarh, Sehore, Guna, Ratlam, Mandsaur, Ujjain, Dhar and Dewas including Malwa region. In Rajasthan, the link project is planned to provide drinking water (about 1744 MCM of water) to targeted population of 21 districts of Eastern Rajasthan (Jhalawar, Baran, Kota, Bundi, Tonk, Sawai Madhopur, Gangapur city, Dausa, Karauli, Dholpur, Bharatpur, Deeg, Alwar, Khairthal-Tijara, Kotputali - Behror, Jaipur urban, Jaipur rural, Dudu, Ajmer, Beawar, Kekri) and en-route towns, tanks and villages as well as to meet industrial water demand of about 205 MCM of water for Delhi-Mumbai Industrial Corridor (DMIC) and other industries. There is also a provision of about 1360 MCM of water for 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.

4. Damanganga-Pinjal Link envisages diversion of water from Bhigad [7.41 Thousand Million Cubic feet (TMC)] dams in Damanganga river basin to Vaitarna river basin, which will make an additional 1586 MLD (20.44 TMC) of water will be available from Pinjal dam in Vaitarna river basin. Thus, total of 31.60 TMC of water will be available for water supply to Mumbai city.
5. Par-Tapi-Narmada Link Project envisages utilization of 46.96 TMC of surplus water of Par, Auranga, Ambica and Purna river basins for utilization in enroute irrigation and to meet drinking water needs in the vicinity of the project. This Project will also take over a part of the commands area of the existing Miyagam Branch canal of Narmada canal system so that water saved in Sardar Sarovar Project could be taken further northwards to benefit water scarce areas of Saurashtra and Kutch regions in Gujarat.

1.4 Whether Government is in the process of starting/restarting certain river-linking projects in the country; if so, the details thereof; whether Government has finalised a timeline for completion of ongoing/upcoming river-linking projects in the country; if so, the details thereof; whether any study has been conducted by Government to study the benefits of upcoming river-linking projects; and if so, the findings of such a study and if not, the reasons therefor?

In 1980, the Government of India formulated a National Perspective Plan (NPP) for Inter-linking of Rivers (ILR) for transferring water from surplus basins to deficit basins/areas. National Water Development Agency (NWDA) has been entrusted with

the work of ILR under the NPP. 30 ILR projects have been identified under the NPP with two components, viz; Himalayan Component (14 projects) and Peninsular Component (16 projects). Detailed Project Reports (DPRs) of 11 projects, Feasibility Reports (FRs) of 26 projects and Pre-Feasibility Report (PFRs) of all 30 ILR projects under the NPP have been completed. Detailed status of ILR Projects under the NPP is given at Annexure.

Ken-Betwa Link Project (KBLP) is the first ILR project under the NPP, implementation of which has started. The project is planned to be completed by March, 2030. For other link projects, schedule of completion would depend upon the party States arriving at a consensus and signing link specific Memorandum of Agreements (MoAs) for their implementation.

As per the studies conducted by the NWDA to explore the benefits of the ILR projects under the NPP, the implementation of the NPP would give benefits of 25 million hectare (ha) of irrigation from surface waters, 10 million ha by increased use of ground waters, raising the ultimate irrigation potential of the country from 140 million ha to 175 million ha, apart from generation of power and other incidental benefits of flood control, navigation, water supply, fisheries, salinity and pollution control, etc. Details of the benefits of the ILR Projects under the NPP are, *inter alia*, contained in the **Annexure IV**. (Same Question No. 1.4 in Lok Sabha)

1.5 The details of the Agreement made between the States of Rajasthan and Madhya Pradesh on the Eastern Rajasthan Canal Project (ERCP); and the parts of Rajasthan that would be getting benefited from ERCP, the details thereof?

Eastern Rajasthan Canal Project (ERCP) was proposed as a standalone project by the Government of Rajasthan. However, with a view to optimize the utilization of water of the Chambal River System and based on deliberations held with the State Governments of Rajasthan and Madhya Pradesh (MP) at various platforms, a proposal for the Modified Parbati-Kalisindh-Chambal (Modified PKC) link project has been framed, incorporating therein the components as proposed by the Government of MP in Kuno, Parbati and Kalisindh sub-basins along with the components of ERCP, as proposed by the Government of Rajasthan. A Memorandum of Agreement (MoA) for implementation of the Modified PKC link project has been signed on 05.12.2024 amongst the States of Rajasthan and MP and the Government of India.

The project is envisaged to provide benefits to MP extending annual irrigation to command area of about 6 lakh hectare (ha) by utilizing about 1815 Million Cubic Meter (MCM) of water and drinking water supply of about 71 MCM of water to the districts of Shivpuri, Gwalior, Bhind, Morena, Sheopur, Shajapur, Agar Malwa, Rajgarh, Sehore, Guna, Ratlam, Mandsaur, Ujjain, Dhar and Dewas including Malwa region. In Rajasthan, the link project is planned to provide drinking water (about 1744 MCM of water) to targeted population of 21 districts of Eastern Rajasthan (Jhalawar, Baran, Kota, Bundi, Tonk, Sawai Madhopur, Gangapur city, Dausa, Karauli, Dholpur, Bharatpur, Deeg, Alwar, Khairthal-Tijara, Kotputali - Behror, Jaipur urban, Jaipur rural, Dudu, Ajmer, Beawar, Kekri) and en-route towns, tanks and villages as well as to meet industrial water demand of about 205 MCM of water for Delhi-Mumbai Industrial Corridor (DMIC) and other industries. There is also a provision of about 1360 MCM of water for 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

1.6 Whether experts including members of Supreme Court appointed Committee have raised objections to the linking of Ken-Betwa rivers; if so, what are their objections to the project; whether Government has taken steps to address their concerns; if so, the details thereof; and if not, the reasons therefor?

A Central Empowered Committee (CEC) was constituted by the Supreme Court to examine the wildlife clearance for the Ken-Betwa Link Project, in terms of adequacy of mitigative measures against the adverse impact of the project on the ecological integrity of Panna Tiger Reserve (PTR) and the riverine ecosystem.

The CEC submitted its Report to the Supreme Court in August, 2019. While no objection to the linking of the rivers Ken and Betwa has been raised by the CEC, they have, inter alia, recommended studies for examining whether the mitigative measures proposed effectively offset the adverse impacts of the Ken Betwa Link Project on the unique ecosystem of Panna National Park and Panna Tiger Reserve. In this regard, detailed studies on Environmental Impact Assessment (EIA) have been carried out for the project and requisite mitigative measures examined and analysed thoroughly by the Expert Advisory Committee (EAC) of Ministry of Environment, Forest and Climate Change (MoEF&CC) and National Board of Wild Life (NBWL), while communicating the Environmental and Wildlife clearances to the project. Further, as directed by NBWL, an Integrated Landscape Management Plan (ILMP) has been prepared by Wildlife Institute of India (WII), Dehradun under the supervision of National Tiger Conservation Authority (NTCA), Panna Tiger Reserve (PTR), MoEF&CC, and the Forest Departments of the States of Uttar Pradesh (UP) and Madhya Pradesh (MP). The ILMP aims to provide better habitat, protection and management of flagship species (tiger, vultures and gharial) and biodiversity conservation covering not only the PTR region, but also the surrounding areas in both the States. A Greater Panna Landscape Council (GPLC) under the Chief Secretary, Government of Madhya Pradesh has been constituted in February, 2023, for the systematic implementation of ILMP in a time bound manner. One meeting of the GPLC and two meetings of a Sub-Committee constituted under the GPLC have been held so far.

Further, the CEC has also recommended for examination of various alternatives to meet the objectives of the Ken-Betwa Link Project, to meet the irrigation needs of the command area of the project to alleviate poverty, through specialized agencies having expertise in areas including arid zone agriculture, soil and water conservation. This was deliberated by the Special Committee on Interlinking of Rivers (SCILR), the apex body for taking decisions on various issues related to ILR, during its 17th meeting held on 26.02.2020. As observed by the Special Committee, while preparing the Detailed Project Report of the project, all available alternatives / options have been examined and the Ken-Betwa Link Project is the only option available to meet the irrigation needs of the command area, which will provide the much-needed relief to the drought prone Bundelkhand region.

1.7 Whether Government has conducted a feasibility study for interlinking of Krishna Cauvery and Pennar Palar river basins; the steps the Central Government has taken so far to ensure the flow of surplus water from the proposed Mahanadi-Godavari basin to the Krishna-Cauvery and Pennar-Palar basins; and the present status of the Central funding for the Upper Bhadra Project and by when the grant is likely to be released to the State of Karnataka?

The Government of India formulated a National Perspective Plan (NPP) in the year 1980 for transfer of water from the water-surplus basins to the water-deficit basins/ regions. National Water Development Agency (NWDA) has been entrusted with the work of Interlinking of Rivers (ILR) under the NPP. Under the NPP, 30 ILR projects have been identified - 16 projects under the Peninsular component and 14 projects under the Himalayan component. Detailed Project Reports (DPRs) of 11 links, Feasibility Reports (FRs) of 26 links, and Pre-Feasibility Reports (PFRs) of all the 30 links have been completed. The Peninsular component of the NPP, inter alia, includes the linking of rivers Godavari and Cauvery.

Under the NPP, the Manas-Sankosh-Tista-Ganga-Damodar-Subernarekha-Mahanadi north-eastern link envisages to provide water to Mahanadi and thereafter, the Mahanadi-Godavari link project to provide water to Godavari. The Godavari-Krishna-Pennar-Cauvery-Vaigai-Gundar linkage system envisages to provide water to further down South. Pennar (Somasila)-Palar-Cauvery link (3rd segment of Godavari - Cauvery link project) is an integral part of this linkage system, which envisages the transfer of surplus Mahanadi and Godavari waters into the river Krishna, then to river Pennar and from there to river Palar, then to river Cauvery and further down South to river Gundar.

Pending consensus on the upper north-eastern links and Mahanadi-Godavari link; in the first phase of Peninsular Rivers development, only the unutilized Godavari waters have been proposed for diversion. The Godavari-Cauvery link project comprises 3 links, viz; Godavari (Inchampalli)-Krishna (Nagarjunasagar) link, Krishna (Nagarjunasagar)-Pennar (Somasila) link and Pennar (Somasila)-Cauvery (Grand Anicut) link, which have been identified as priority link projects under the NPP. Feasibility study to divert unutilized Godavari waters was undertaken by NWDA and subsequently, a Detailed Project Report (DPR) of the Godavari (Inchampalli)-Cauvery (Grand Anicut) link envisaging diversion of about 7000 Million Cubic Metres (MCM) of water from Godavari basin to Krishna, Pennar and Cauvery basins, was prepared by NWDA and circulated to the party States/ Union Territory (UT) in April, 2021.

Further, based on deliberations held in the consultation meetings with the party States/ UT, the Technical Feasibility Report (TFR) of a proposal limiting the transfer of Godavari waters from 7000 MCM to about 4189 MCM along with combining a proposal for supplementation in Krishna basin through Bedti Varda link was prepared by NWDA and circulated to the party States/ UT in January, 2023. Subsequently, the modified DPR of this proposal for transfer of about 4189 MCM unutilized waters of Chhattisgarh in the Indravati sub-basin of Godavari basin, combining therewith the proposal for supplementation in Krishna basin (524 MCM) through Bedti-Varda link was prepared by NWDA and circulated to the party States / UT in January, 2024. Concerted efforts have been made by the Government of India in the consultation meetings held with the party States/ UT of Puducherry to bring them to the necessary consensus for implementation of the link project. It is, however, for the party States/ UT of Puducherry to reach a consensus.

Upper Bhadra Project is being implemented by the State Government of Karnataka through their resources.

1.8 Whether Government has formulated any plan for river basin management of the rivers of Raigad district Patalganga, Amba, Kundalika, Savitri, Ulhas, Panvel and Mandad; the steps taken to prevent industrial

pollution and illegal sand mining in these rivers; and whether any special programmes are being run to ensure the participation of local communities in the conservation of the said river basins?

Under Integrated Water Resources Development component of River Basin Management scheme, the National Water Development Agency (NWDA) has been entrusted with work of Interlinking of Rivers Programme. Government of India has formulated a National Perspective Plan (NPP) in the year 1980 for transfer of water from water-surplus basins to water-deficit basins/ regions through inter-state river linking projects.

Apart from this, NWDA also undertakes studies for intra-State link proposals, as received from State Governments. 20 Intra-State link proposals as received from the Government of Maharashtra has been studied by the NWDA, and Pre-Feasibility Reports (PFRs) of all these proposals and Detailed Project Reports (DPRs) of 3 proposals have been prepared by NWDA. 4 out of the 20 intra-State links are envisaged to, inter alia, benefit Raigad district, viz; North Konkan-Godavari Valley, Koyna- Mumbai city, Middle Konkan-Bhima Valley and Mulsi-Bhima intra State links, PFRs of which have been completed and sent to the State Government.

Further, as per the information made available by the Government of Maharashtra, Maharashtra Water Resources Department has prepared Integrated State Water Plan for all basins in Maharashtra, which includes the West Flowing River's basin Plan for rivers Patalganga, Amba, Kundalika, Savitri and Ulhas. Further, to curb the unauthorized excavation and transportation of sand, as per the information made available by the Government of Maharashtra, the concerned officials in Raigad district have been conducting day and night patrolling in sensitive areas, inspecting checkpoints, and making surprise visits to areas upon receiving complaints regarding illegal excavation and transportation of sand. During the financial year 2024- 25, a total fine of Rs 86,63,671/- has been imposed and successfully recovered in 77 cases related to illegal minor mineral mining/excavation and transportation.

As regards the steps to prevent the industrial pollution, as per the information made available by the Government of Maharashtra, the industries in the Raigad region are setup after obtaining consent from Maharashtra Pollution Control Board (MPCB) under the relevant Acts and Rules. As per the terms and conditions of the consent, the industries have installed the necessary pollution control system to prevent water pollution and air pollution. The Board officials regularly visit the industries / local bodies in Raigad district, verifying compliance of consent conditions including pollution control systems and take appropriate actions against the defaulters, as per the relevant provision of the Environmental Laws.

सात-आठ वर्षों में बचाया 1,100 करोड़ क्यूबिक मीटर जल: मोदी mwrda.gov.in

दूसरा ब्रह्मस्थान स्थान हस्ति
कान्ते के लिए शुभकामनाएं
द्वितीय शिलाद्विष्ट ने 18
राष्ट्रीय वॉलबॉल बनाए
जिनमें 12 महिला खिलाड़ियों
के नाम हैं।

दूसरा ब्रह्मस्थान स्थान हस्ति
कान्ते के लिए शुभकामनाएं
द्वितीय शिलाद्विष्ट ने 18
राष्ट्रीय वॉलबॉल बनाए
जिनमें 12 महिला खिलाड़ियों
के नाम हैं।

दैनिक जागरण, नई दिल्ली, दिनांक 31.03.2025

Water to be released from Bhadra dam

As of Sunday, Bhadra has 28 tmc ft of live storage, with 11 tmc ft needed for irrigation till May 8 and 14 tmc ft for drinking water, leaving a cushion of 3 tmc ft, he said.

From April 6, canals will be used only for drinking water supply.

The Hindu, New Delhi, Dated 31-03-2025

Glimpses of NWDA

I. Review meetings regarding programme & progress of the work of NWDA

During the reporting period, review meetings were taken by the DG, NWDA on 08.01.2025 & 13.01.2025 for reviewing the work progress and the programme for the year 2025-26 of NWDA for the jurisdiction of CE(S) and CE(N) respectively at New Delhi in hybrid mode.

During the review meeting on progress of work under CE(S) jurisdiction on 08.01.2025, the CE(S), NWDA gave a presentation covering the progress of current ongoing works, targets/programme for the year 2025-26 and the status of DPRs/FRs/PFRs and Water Balance Studies under CE(S).

Important points discussed and directions given by the DG on various issues are as follows:

Regarding DPR on GC link, DG suggested to make a note on the link showing chronology of various changes made in the study. On Godavari(SSMPP)-Krishna(Pulichintala) link, DG directed to make a note on justification of considering lower success rate vice-a-versa with DPR guidelines of CWC. Regarding Krishna(Srisalam) - Pennar link, DG directed to prepare a status note after carrying out simulation study on Krishna(Srisalam)-Pennar project and submit to Head Quarter. CE(S) informed that Maharashtra is not in a position to take the D-P link project because with the available surplus water of Damanganga, the DEG and DVG Intra-State links have been taken up. DG directed to provide a note on this. On the DPR of Damanganga-Sabarmati-Chorwad Intra-State link project, DG, NWDA suggested to pursue the matter with Govt. of Gujarat and also suggested not to take up field activities till signing of MoU. While discussing FRs & PFRs, on FR of G-C link with diversion of 16400 MCM, DG directed to prepare a background note on the development from PFR/FR stage to DPR stage to examine the need of revised FR for taking further decision. Regarding updation of FR of Pamba-Achnokovil-Vaippar link, CE(S) informed that there was a resolution in Kerala Assembly not to take forward the P-A-V link. On this, the DG directed to make a note on the subject and raise the issue at appropriate time.

Gist of important points discussed and decisions taken during the review meeting of CE(N) jurisdiction held on 13.01.2025 are as follows:

DG, NWDA suggested some modifications on the proposed targets of works to be completed and asked CE(N) to monitor/review the progress of work on monthly basis. Regarding MPKC link he asked to prepare & submit the status note on DPRs of Rajasthan projects under ERCP and share the details of Kalisindh diversion Canal project at the earliest. He directed to send reminders to WAPCOS for early submission of revised report of environmental clearance of Lower Orr project. He agreed to provide time extension for completion of DPR of S-M Link to CWC. He emphasized to expedite the DPR works of M-G link, MSTG link, Kosi-Mechi link Intra-State and Sarda-Yamuna link projects. DG, NWDA also asked to complete & circulate various WBS reports as per their targets.

Various administrative matters were also discussed in the meetings and work program for the year 2025-26 under CE(S) & CE(N) jurisdictions was finalised.

II. Organisation of Technical Seminar in Hindi

The NWDA had organized a Technical seminar in Hindi on the topic "Interstate Cooperation for Inter-Basin Water Transfer" in Hyderabad on January 23 and 24, 2025. The objective of this seminar was to promote the propagation of the Hindi language and to discuss the technical aspects of Water Resources Management.



Glimpse of Technical Seminar

The seminar was inaugurated on January 23rd 2025 by the DG, NWDA with the lighting of the lamp and the National Anthem. On this occasion, Mr. Atul Jain, Chairman of the Krishna River Management Board was present as the chief guest. Various dignitaries expressed their views during the inaugural session.

Technical sessions and presentations:

A total of 9 participants presented their papers during the seminar and shared technical ideas related to water resource management. The following topics were discussed in the major technical sessions:

1. River Interlinking in India: Issues and Concerns
2. Ken-Betwa Link Project
3. Parbati-Kalisindh-Chambal Link Project
4. Water Conservation and Management Strategies
5. River Linking Plan and its Impact

On the first day (January 23, 2025), various experts presented their research papers in Technical Session-1, discussing new techniques in water transfer and water management. During this session Mr. Devendra Rao, CE(S), NWDA and Mr. Shiv Prakash CE(N), NWDA shared their experiences. In Technical Session-2, experts discussed the latest technologies related to water management and the effectiveness of inter-basin water transfer.

A closing ceremony was held in the final phase of the seminar, where certificates were distributed to all participants. The chief guest and organizers thanked everyone for making the seminar a success and emphasized organizing such events in the future. This Hindi seminar organized by NWDA not only served as a platform for discussing the technical aspects of Water Resource Management but also proved to be helpful in promoting the Hindi language. Experts, engineers, and researchers related to water management, actively participated in this seminar and shared their thoughts, leading to the exploration of new possibilities in the direction of water conservation and management.

III. 7th meeting of Ken-Betwa Link Project Authority (KBLPA)

7th Meeting of KBLPA was held under chairmanship of CEO, KBLPA on 05.02.2025 at Jhansi in Hybrid Mode.



7th meeting of KBLPA was held on 05.02.2025

Main agenda items deliberated during the meeting were Land Acquisition for Daudhan Reservoir and PTR; Status of work of Daudhan Dam; Land Acquisition for Link Canal; Preparation of Tender document for link canal; Environmental Clearance of Lower Orr Dam Project; Status of PMC; Status of State specific projects of UP & MP and decisions were taken. Under the State specific projects of UP, ACEO(HQ/P) informed the Authority about the status of DPR of Pailani Barrage and Banda Barrage; DPR for Renovation and Modernization of Tanks in Mahoba and Enroute; DPR for Renovation and Modernization of Ken Main Canal System; DPR for Strengthening/Repair of Bariyarpur PUW, Parichha Weir, Barwa Sagar Dam and other appurtenant Structures and DPRs for i) Stabilization of irrigation in 1,92,479 ha in Banda district in Uttar Pradesh under Existing Ken command by repair/ strengthening of existing system, ii) Developing pumping system, pipe distribution network and micro irrigation System from Ken Betwa link canal to serve 17,488 ha of enroute commands of Uttar Pradesh and iii) Development of new command area 37,564 ha in Mahoba

district of Uttar Pradesh with pressurized pipe micro irrigation system are to be prepared by the I&WRD, Govt. of UP were discussed.

Under State specific projects of MP, status of Ken Left Bank Canal of MP; Bariyarpur Left Bank Canal of MP; DPR for Developing pumping irrigation system by lifting water from Daudhan reservoir/initial reach of Link water carrier to serve a part of high-level command (43,678 ha.) of Chhatarpur District of MP; DPR for Panna and Hatta Lift System; DPR for developing pumping system, pipe distribution network and micro irrigation system from Ken-Betwa link canal to serve left out area of 42,096 ha. of high level command & 96,751 ha. enroute command of MP and DPR for augmenting the supply of Tanks of MP were discussed.

In addition to the above, ACEO (HQ/P) informed about the Revised Estimate for the year 2024-25 and Budget Estimate for the year 2025-26 for KBLP. He also apprised the Status of Expenditure on KBLP by KBLPA and Governments of UP & MP.

V. 7th Meeting of the Sub-Committee for Comprehensive Evaluation and System Studies on ILR

7th meeting of the "Sub Committee for Comprehensive Evaluation and System Studies on ILR" was held under the chairmanship of Shri A.B Pandya, Secretary General, ICID on 25.03.2025 at NWDA, New Delhi in hybrid mode.



7th Meeting of the "Sub Committee for Comprehensive Evaluation and System Studies on ILR" was held on 25.03.2025 at New Delhi in hybrid mode.

As decided in the previous meeting, the status of FRs and DPRs of the links under NPP was presented by NWDA including a brief overview of the system studies for MSTG, GDS, S-M, and F-S link projects. A flowchart illustrating the proposed water diversion from Manas to Mahanadi, incorporating all intermediate rivers and considering Alternative II for the MSTG Link was also displayed by SE(North), NWDA.

The Chairman, Sub-Committee suggested that diverting unregulated water from the Manas River at 75% dependability would require a storage facility to accommodate such a large volume of water. He emphasized that without considering a dam, it would be highly challenging to divert the water through the

link canal. He further added that the planning for other downstream links should be undertaken only after the finalization of the System Studies and the DPR of the MSTG Link.

Members were then apprised about status of system studies of the M-S-T-G, G-D-S, SM and FS link projects. After this presentations were done by the representatives of IIT, Guwahati; NIH, Roorkee; NIT, Patna and NIT, Warangal on the System Studies of link projects being done by them namely MSTG, FS, GDS, and SM links respectively.

On MSTG link project, Mr. M.K. Sinha, Member Sub-Committee gave his suggestions on water dependability considerations. Chairman Sub-Committee emphasized the need to reassess the discharge hydrograph for virgin yield under uncontrolled flow from the Manas River and suggested that NWDA should thoroughly study the report submitted by IIT, Guwahati and thereafter, conduct a workshop for MSTG Link, along with participation of IIT, Guwahati, for having more clarity about the study including alternatives of MSTG Link project.

While discussing F-S Link Project, NIH Roorkee, provided a detailed explanation of the system study conducted. The chairman of the Sub-committee noted that the irrigation demand appeared to be overestimated and explained that in lower command areas, groundwater should be utilized, and in regions prone to water logging and drainage issues, irrigation practices should be restricted to specific seasons. He also pointed out that while flushing of Hooghly by the imported waters have economic benefits, the flushing demands of Ichhamati and Jamuna rivers should not be considered out of a very costly imported water. Sh. M.K. Sinha pointed out that groundwater levels in the area are very shallow, the calculation of conjunctive ground water use is not necessary.

Regarding GDS link project, NIT, Patna while presenting the progress of the study provided an overview of the study area, the methodology adopted, various scenarios developed, cropping patterns, groundwater conditions, and district-wise water demand for different uses etc. He proposed four reservoir locations to store surplus water from the MSTG Link, which could be utilized for irrigation during the lean or Rabi period. Chairman appreciated the proposal and acknowledged its potential benefits.

Regarding S-M Link Project, NIT, Warangal provided the insights into the data collected, including its sources and scale, the methodology adopted, and the data used for estimating realistic water demand.

The meeting concluded with the endorsement of the Chairman of the Sub-Committee suggestion to organize exclusive workshops for each link project and he advised incorporating a balancing reservoir in each link to store surplus water, reduce the water loss and to use during lean periods.

- **Other Activities**

I. International Women's Day 2025

The International Women's Day is celebrated on 8th March every year and is devoted to celebrating the achievement of women power and their unique contribution to the country and society. The theme of this year Women's Day was "For all Women and Girls: Rights, Equality and Empowerment".

This day was celebrated in NWDA(HQ) on 07.03.2025 with great enthusiasm. During the occasion DG, NWDA and Other Senior Officers expressed their feelings/views. After the addressing of senior officers, the cake cutting program took place and various activities/competition were organised during the occasion. Smt. Jaswinder Kaur, DD(T) was selected as luckiest women of the day and she was awarded with a prize by the DG, NWDA.

Glimpses of Women's Day Celebration



II. Swachhta Pakhwada Celebration

Swachhata Pakhwada a fortnight-long cleanliness campaign was observed in NWDA, HQ and its field offices from 16.03.2025 to 31.03.2025, focussing on promoting cleanliness and sanitation. Various activities conducted during the Pakhwada are as follows:

1. Swachhata Pledge was administered in NWDA, HQ and Field Offices on 17.03.2025.
2. Cleanliness drives was carried out near office premises and nearby park by NWDA, Hyderabad and NWDA(HQ) on 18.03.2025 & 24.03.2025 respectively.
3. Swachhata Rallies were organised by field offices of NWDA and KBLPA for creating awareness on Swachhata on 21.03.2025.
4. Signature Campaign was organised by NWDA(HQ) on 21.03.2025.
5. A workshop was also organised in CE(N) & CE(S) offices for creating awareness on cleanliness on 26.03.2025.
6. Drawing Competition was organised by NWDA, Patna at Govindpur Primary School, Phulwari Sharif, run by the Government of Bihar on 27.03.2025.

Glimpses of Swachhata Pakhwada Activities



Swachhata Pledge was administered in NWDA, HQ and Field Offices on 17.03.2025.



Swachhata Rallies were organised by field offices of NWDA & KBLPA on 21.03.2025.



Cleanliness drives was carried out at nearby park of NWDA(HQ) on 24.03.2025.



Signature Campaign was carried out by NWDA(HQ) on 26.03.2025 for creating awareness on cleanness.



NWDA, Patna organized a Painting competition in Govindpur Primary School, Phulwari Sharif, run by the Government of Bihar on 27.03.2025 for creating awareness about cleanliness among children.

Interaction with State Governments/Important Field Visits

- A meeting was held among NIT, Patna; Director (MDU) and NWDA, Patna on 10.01.2025 at NIT, Patna to provide a brief description of the work under the system studies of G-D-S link.
- A meeting between the WRD, Govt, of Bihar and the NWDA headed by the Principal Secretary, was held on 23.01.2025 at Sinchai Bhawan, Patna for review of progress of Phase-I works of Eastern Kosi-Mechi Canal (EKMC).
- SE, NWDA, Patna visited Birpur for Topographical survey work of Kosi-Mechi Link Project from 20.01.2025 to 22.01.2025
- Joint meeting of CWC, WRD, Govt, of Bihar and NWDA held on 03.02.2025 in respect of DPR of Kosi-Mechi Intra-State Link project.
- Department of Geology, Govt. of Maharashtra officials visited ID, Nashik, NWDA and inspected core logs which were collected during drilling work of DVG link project on 14.02.2025.
- CE(S) along with other officials of NWDA visited Kadam project, PG Bridge, HO site, Bhimagarh Reservoir, Bhikari HO site, Gosikhurd Dam, Paranahta Project and Pench Irrigation Project and held discussions with WRD official of Govt. of Maharashtra and Govt. of Telangana from 18.02.2025 to 21.02.2025 regarding WBS of Pranhita sub basin and DPR of Wainganga-Nalganga link project.
- On 04.02.2025 CE(S), NWDA held discussions with WRD officials of Govt. of Telangana on Sammakka Sagar and Inchampalli project simulations.
- Officials of NWDA & WRD, Govt. of Maharashtra visited the D(E)-G link project site from 20.02.2025 to 21.02.2025 and verified rising main alignment.
- Visit of Chief Engineer(PAO), CWC held on 07.03.2025 for Inspection of work of Western and Eastern Kosi Canal Project, Bihar.
- CE(S) along with other officials of NWDA visited SRSP, KLP & G-C link command area, Phanigiri tank, Narsingapur Reservoir, Kadakandla Reservoir and Akeru aqueduct pertaining to the G-C Link on 07.03.2025.



Dept. of Geology, Govt. of Maharashtra officials inspected core logs which were collected during drilling works of DVG link project at ID, Nashik on 14.02.2025.



Shri P. Devender Rao, CE(S), along with Smt. K. Lalitha, DD, visited Kadam project, Pench project and Gosikhurd projects from 18.02.2025 to 21.02.2025.



Visit of Chief Engineer(PAO), CWC on 07.03.2025 for Inspection of work of Western and Eastern Kosi Canal Project, Bihar.



Appointments, Promotions and Retirements of NWDA Officials

During the reporting period starting from 1st January 2025 to 31st March 2025:

Appointments:

Sl. No.	Name & Designation	Deputation/Direct Recruitment (DR)	Place of Posting
1.	Shri Neeraj Kumar Manglik Chief Engineer (HQ)	Deputation w.e.f. 03.02.2025	NWDA (HQ), New Delhi

Promotions:

Sl. No.	Name & Designation	Post and Date of Promotion	Place of Posting on Promotion
1.	Shri Ashok Bhatele, Assistant Engineer	Assistant Director w.e.f 01.01.2025	NWDA(HQ), New Delhi
2.	Shri Hari Om Varshney Assistant Engineer	Assistant Director w.e.f 01.01.2025	NWDA(HQ), New Delhi
3.	Shri S.C. Choudhary Assistant Engineer	Assistant Ex. Engineer w.e.f 01.01.2025	ID, NWDA, Chattarpur
4.	Shri Subham Kumar Junior Engineer	Assistant Engineer w.e.f 01.01.2025	O/o CE(North), Lucknow
5.	Shri Shlok Vijay Junior Engineer	Assistant Engineer w.e.f 01.01.2025	ID, NWDA, Vadodara
6.	Smt. Bijendri Santriwal Head Clerk	Superintendent Gr-II w.e.f 01.01.2025	NWDA(HQ), New Delhi
7.	Smt. S.A. Viswaroop Head Clerk	Superintendent Gr-II w.e.f 01.01.2025	ID, NWDA, Bhopal
8.	Shri Lal Mohan Mehto Upper Division Clerk	Head Clerk w.e.f 01.01.2025	NWDA(HQ), New Delhi

Retirements/Resignation/Repatriation:

Sl. No.	Name & Designation	Date of Retirement/Repatriation
1.	Shri Lal Mohan Mehto, Head Clerk, NWDA, New Delhi	31.01.2025 (Retired)
2.	Shri Utkarsh Sonkar, LDC, IC, NWDA, Gwalior	07.02.2025 (Resigned)
3.	Shri Kuldeep Verma, Junior Engineer, ISD, NWDA, Panna	12.03.2025 (Resigned)
4.	Shri Gopa Bandhu Samal, LDC, IC, NWDA, Bhubaneswar	31.03.2025 (Retired)

Participation of NWDA Officials in Trainings/ Seminars/ Conferences

Details of events in which the officials participated are as per the list shown:-

Sl. No.	Trainings/ Seminars/ Workshops/ Conferences etc.	Period	Venue	Organized By	Officials who attended
1.	Climate Resilient Infrastructure	08.01.25 to 10.01.25	Engineering Staff College of India (ESCI), Hyderabad	Dam Safety Society, New Delhi	1. Shri D.Karthik, AE 2. Smt. Mitra Pradeep, JE
2.	Training on various topics related to GIS	15.01.25, 20.01.25, 27.01.25, 03.02.25 and 14.02.25	NWDA, New Delhi	System Study Cell, NWDA, New Delhi	All AEs and JEs of NWDA(HQ)
3.	राष्ट्रीय जल अकादमी, केन्द्रीय जल आयोग, पुणे द्वारा "प्रबंधन विकास कार्यक्रम" का आयोजन।	27.01.25 to 31.01.25	Ministry of Jal Shakti	NWA, Pune	Sh. Rahul Dwivedi, Director(Admn.), New Delhi
4.	Water Vision @2047: The Way Forward	18.02.25 to 19.02.25	Udaipur, Rajasthan	Ministry of Jal Shakti	Shri Baleshwar Thakur, DG, NWDA
5.	Water Sustainability Conference 2025	12.03.25	NDMC Convention Centre, New Delhi	Bureau of Water Use Efficiency, NWM, MoJS	Shri Baleshwar Thakur, DG, NWDA
6.	Dam Safety Conference	20.03.25	Scope Convention Centre, Scope Complex, Lodhi Road , New Delhi	INCOLD, India	Shri Baleshwar Thakur, DG, NWDA
7.	Flood Plain Zoning and Flood Management	21.03.25	Renaissance Hotel, Gomti Nagar, Lucknow	Ganga Flood Control Commission	1. Shri Shiva Prakash, CE(N), Lucknow 2. Smt. Deepti Verma, DD, Lucknow

हिन्दी के बढ़ते कदम

जनवरी, 2025 से मार्च, 2025 की तिमाही के दौरान आयोजित गतिविधियां इस प्रकार हैं:

- नराकास (0-2) नागपुर द्वारा दिनांक 16.01.2025 को आयोजित बैठक में अन्वेषण प्रभाग नागपुर ने भाग लिया।
- राजभाषा हिन्दी के प्रगामी प्रयोग के संबंध में दिनांक 23 व 24 जनवरी, 2025 को हैदराबाद में दो दिवसीय हिन्दी संगोष्ठी का आयोजन किया गया जिसमें दिनांक 23 जनवरी 2025 को तकनीकी संगोष्ठी के अंतर्गत तकनीकी पेपर प्रस्तुत किए गए और उस पर गहन विचार विमर्श किया गया तथा दिनांक 24 जनवरी 2025 को एक तकनीकी अध्ययन दौरा भी किया गया।
- दिनांक 27.01.2025 को अनिरबन कुमार विश्वास, उप-निदेशक, क्रियान्वयन क्षेत्रीय क्रियान्वयन कार्यालय, दक्षिण केंद्रीय सदन कोरामंगला, बेंगलुरु द्वारा अन्वेषण प्रभाग, राजविअ, बेंगलुरु का निरीक्षण किया गया।
- मुख्य अभियंता (उत्तर), राजविअ, लखनऊ ने नराकास, की अर्धवार्षिक बैठक में दिनांक 31.01.2025 को भाग लिया।
- दिनांक 14.02.2025 को आयोजित नगर राजभाषा कार्यान्वयन समिति की ओर से प्रतिवर्ष आयोजित किए जाने वाले राजभाषा सम्मेलन में डॉ अनिल कुमार द्विवेदी, सहायक निदेशक (राजभाषा) ने भाग लिया।
- दिनांक 17.02.2025 को जयपुर राजस्थान में राजभाषा विभाग द्वारा आयोजित उत्तर मध्य और पश्चिम क्षेत्र के राजभाषा संबंधी पुरस्कार वितरण एवं राजभाषा सम्मेलन में डॉ अनिल कुमार द्विवेदी ने भाग लिया।



हिन्दी संगोष्ठी की झलकियाँ

...on the International Day of Happiness 20th March



HAPPINESS FOR LIFE, SOCIETY AND NATION



International Day of Happiness is observed globally on March 20, a celebration established by the United Nations General Assembly on June 28, 2012. This special day encourages people worldwide to recognize the significance of happiness in their lives. The theme for this year, 'Caring and Sharing,' emphasises the values of kindness and generosity.

Happiness is an emotional state characterized by feelings of joy, satisfaction, contentment, and fulfilment. It comes with the feeling of inner joy and spreads positivity and cheers all around. To be happy, one need not be wealthy. It is present in all of us internally and can be achieved through the process of self-realisation

It can be achieved by enjoying the current life and accepting it as it is instead of thinking and trying to control the things which cannot be controlled. None of the feelings are under our control, whatever happens in life we have to just make a positive path and accept it. The goal in our life is to make the living worth which indirectly earns happiness and pride.

If we talk about India's position in recent World Happiness Report, we found that India ranked 126th out of 143 nations in the World Happiness Report (WHR) 2024 released on March 20 which noted that older age is associated with higher life satisfaction in the world's most populous country, Finland has landed the top spot on the World Happiness Report's annual ranking of the happiest countries in the world.

Being happy offers numerous benefits for both physical and mental well-being, including a stronger immune system, improved cardiovascular health, reduced stress, better sleep, and even a longer lifespan. It also promotes healthy lifestyle as happy people tend to engage in healthier behaviours, such as regular exercise, a balanced diet, and avoiding unhealthy habits. Whereas, persistent unhappiness can lead to various negative outcomes, including mental health issues like depression and anxiety, weakened immune systems, strained relationships, and reduced productivity, impacting both physical and mental well-being.

Happiness can be related to National Progress as happy people are more likely to participate in public life, vote, volunteer, and respect the law, contributing to a more active and engaged citizenry. A focus on happiness can foster a sense of community and belonging, leading to greater social cohesion and trust, which are crucial for a stable and prosperous nation. As higher levels of happiness are associated with better physical and mental health thus it contributes to a healthier and more resilient population. A focus on happiness can help address social and economic inequalities,

***Deputy Director, Hydrology, NWDA, New Delhi**

as a sense of fairness and opportunity is essential for overall well-being and national stability. Prioritizing happiness in nation-building can lead to a more stable, vibrant, and prosperous society by fostering well-being, civic engagement, and a sense of national pride, ultimately strengthening the nation.

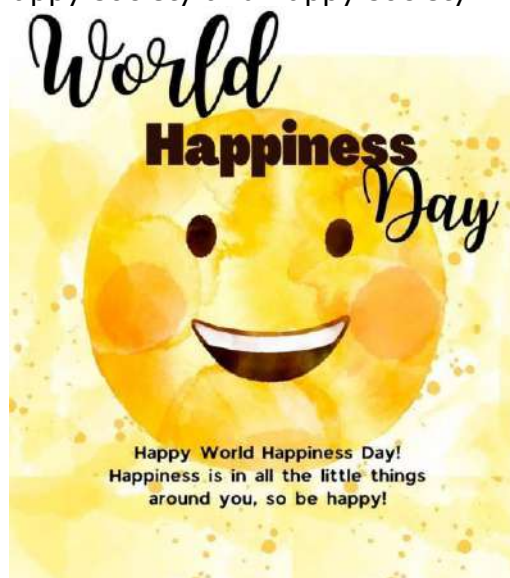
There are some values that can help us to keep happy includes friendship, love, and hobbies. Happiness cannot be achieved at one go or overnight, there are no such switches that are turned on to be happy instantly. Achieving happiness completely depends on pursuing our goals. The path of happiness include things like regular exercise, caring for people, living in a peaceful and pleasant environment. It is often said that sharing our worries or negative thoughts with our loved ones can relieve us from stress.

**Happiness is not costly, but it cannot be purchased,
It is also not cheap as it cannot be acquired easily,
We can get this when we give it to someone**

Doing what we love, being how we want to be, provides enough happiness and confidence. Along with making ourselves happy, we can also make the people around us happy by loving them selflessly. This thought will make our surroundings or people around us happy; this indirectly boosts our happiness. Our flaws can be accepted by us as we know the reason for it, but the acceptance of those flaws by other people makes you the most loved person, this what gives real happiness to a person.

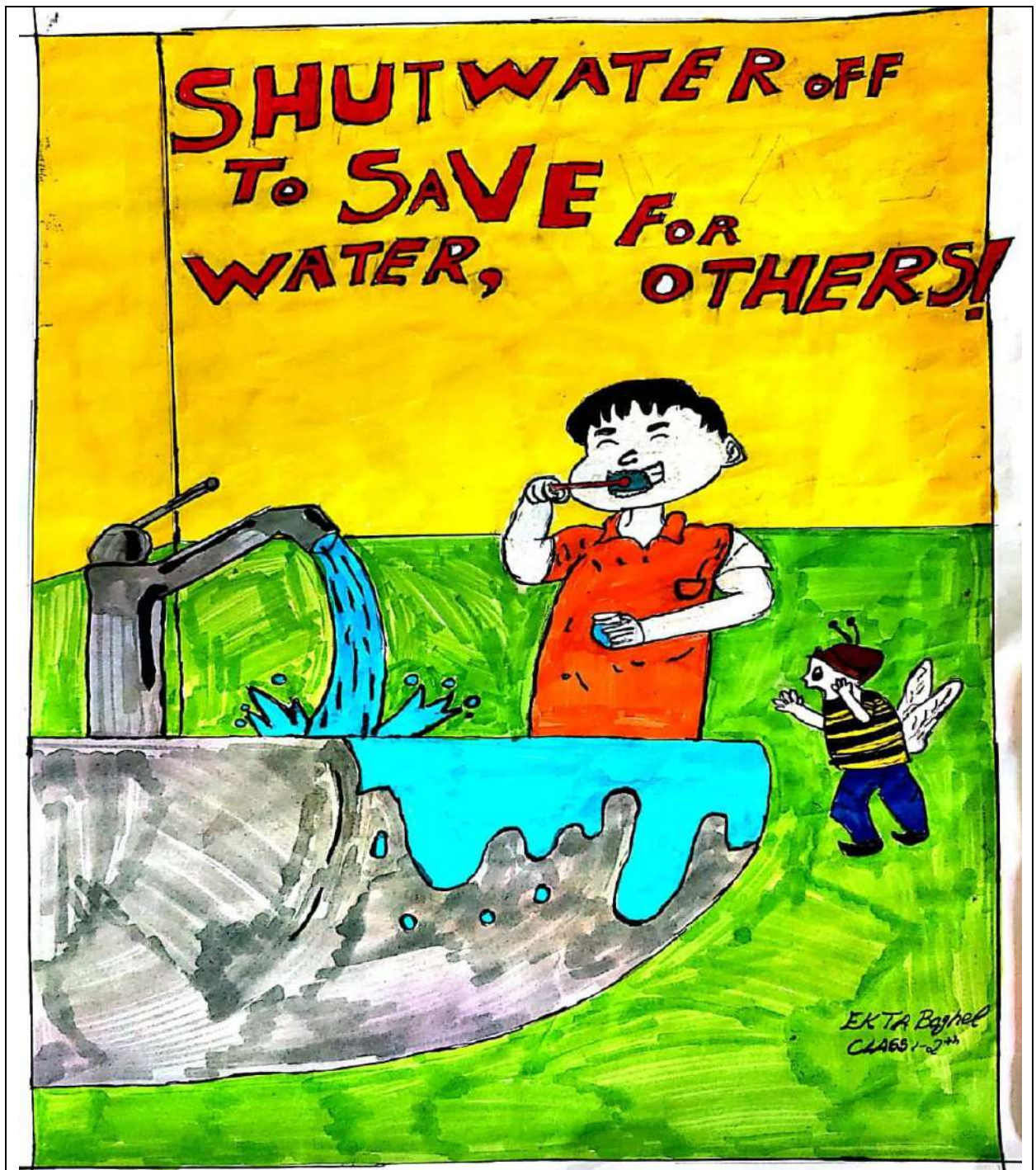
Reasons for happiness are generally common but unhappiness has different reasons for different persons. This is reflected in opening line of Leo Tolstoy's novel Anna Karenina which states: **"All happy families are alike; each unhappy family is unhappy in its own way"** suggesting that happy families share common characteristics while unhappy ones experience unique struggles.

So we should try to inculcate good habits, attitude and perception towards our life and problems, as discussed above, to become happy. Happy people make happy families thereby lead to happy society and happy society will make the nation strong.



Drawing Depicting Importance of Water

Here is the drawing contributed by Ekta Baghael on Water Conservation.



Ms. Ekta Baghel, Class 2nd, Daughter of Shri K.C. Baghel, AE, ID, Vadodara

कविताएं

जल संरक्षण

प्रेरणा बघेल
क्लास – 9th

आओ हम सब मिलकर जल बचाएँ ।
सब लोगों तक यह संदेश पहुँचाएँ ॥

जल संरक्षण के सभी उपाय बताएँ ।
शावर में स्नान करके पानी ज़्यादा न बहाएँ ॥

हो सके तो बाल्टी में पानी भरकर मग से नहाएँ ।
दाढ़ी करते वक्त, भैया लोगों, नल को बंद रखा जाए ॥

बर्तन धोते समय, माता और बहनों नल की जगह,
टब का उपयोग करा जाए ।
बरिश के जल को रेन वाटर हार्वेस्टिंग करके,
ग्राउंड वाटर लेवल को ऊपर लाया जाए ॥

खाली जगहों पर तालाब बनाकर ।
बारिश के जल को उपयोग में लाया जाए ॥

बरसात के दिनों में अधिक से अधिक,
वृक्ष लगाकर जल संरक्षण कर, पर्यावरण बचाया जाए ।
और अपने जीवन को अधिक सुखमय बनाया जाए ॥

पुत्री श्री के. सी. बघेल, सहायक अभियंता, राजविअ,
वड़ोदरा

जल बचाओ

अमन,

एक बार सोच के देखो जरा, क्या जल बिन तुम जी पाओगे,
तरस जाओगे बूंद बूंद को, अगर जल को ऐसे ही व्यर्थ
बहाओगे।

कब तक देखोगे तुम, जल की बर्बादी के तमाशे,
जब जल ही खतम जाएगा, तो सभी मरेंगे जल बिन प्यासे।

सूख रही है नदियां, नाले, जलस्तर भी गिर रहा है,
आँख खोल कर देखो मनुष्य, तू ही जल संकट से घिर रहा।

आज नहीं संभलें तो कल, रोओगें-पछताओगे,
तरस जाओगे बूंद-बूंद को, अगर जल को ऐसे ही बहाओगे।

अपने बच्चों के हिस्से का जल, तुम व्यर्थ बहा रहे हो,
आने वाली नस्लों के लिए, कैसे दिन तुम ला रहे हो।

तरस जाओगे बूंद-बूंद को, अगर जल को व्यर्थ बहाओगे
जल संरक्षण को अपनाकर, जीवन सफल बनाओगे।

कनिष्ठ अभियंता,
राजविअ , मुख्यालय

Activities of NWDA at a Glance



Inspection of Topographical work of Kosi-Mechi link project by EE, ID, Patna, NWDA on 09.02.2025



AE and JE of NWDA, Hyderabad attended a workshop on "Working together to build resilience to drought in India" on 24.03.2025 by the Cranfield University, IIT, Bombay and IIT, Roorkee.



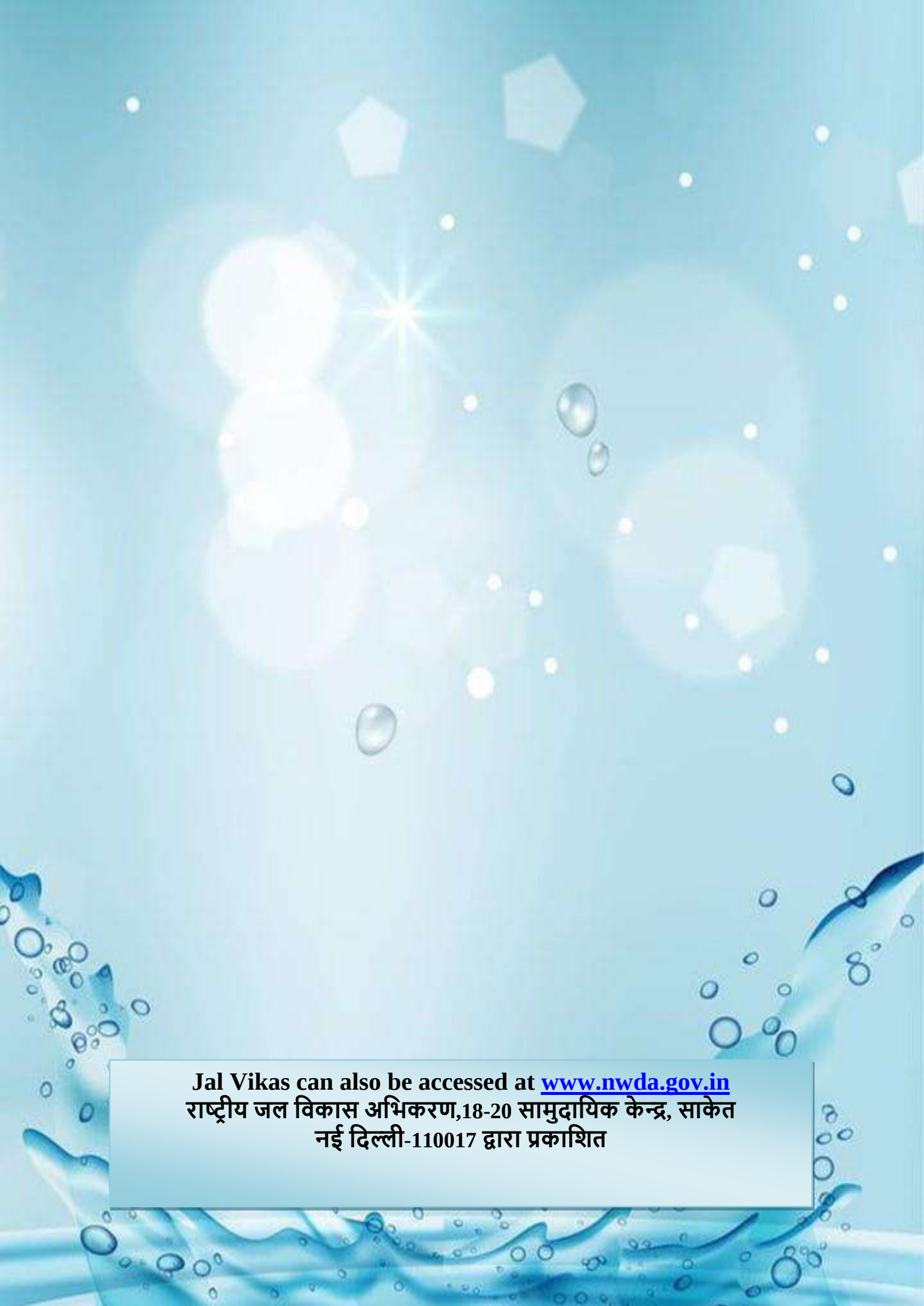
Shri.D Rama Mohana Rao, AE & Smt.Mitra Pradeep, JE O/o CE(South), NWDA, Hyderabad attended 4th quarterly Dialogue 2024-25 by CGWB & CWC with AP & Telangana states on 25.03.2025



CE(S), NWDA attended the meeting with Engineer in Chief, Telangana & Profs Cranfield University, UK on revival of Traditional water bodies on 26.03.2025



Officials of WRD, Govt. of Maharashtra visited the DEG link project site and verified rising main alignment from 20.02.2025 & 21.02.2025.



Jal Vikas can also be accessed at www.nwda.gov.in
राष्ट्रीय जल विकास अभिकरण, 18-20 सामुदायिक केन्द्र, साकेत
नई दिल्ली-110017 द्वारा प्रकाशित