

GOVERNMENT OF INDIA
MINISTRY OF WATER RESOURCES,
RIVER DEVELOPMENT & GANGA REJUVENATION
LOK SABHA
UNSTARRED QUESTION NO. 379
ANSWERED ON 19.07.2018

INTER-LINKING OF RIVERS

379. SHRI CH. MALLA REDDY SHRI ASHOK SHANKARRAO CHAVAN SHRI SUDHEER GUPTA SHRIMATI RANJANBEN BHATT SHRI S.R. VIJAYAKUMAR	KUNWAR HARIBANSH SINGH SHRI GAJANAN KIRTIKAR SHRI BIDYUT BARAN MAHATO SHRI T. RADHAKRISHNAN SHRI S. RAJENDRAN
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Will the Minister of WATER RESOURCES, RIVER DEVELOPMENT AND GANGA REJUVENATION be pleased to state:

- (a) whether it is a fact that the deepening water crisis threatens to worsen the living conditions across the country and if so, the details thereof;
- (b) whether the Government has decided to fast track the inter-linking of 30 rivers in the country in a phased manner and if so, the details thereof;
- (c) whether the pre-feasibility reports of all 30 links have been prepared and circulated amongst the concerned States and if so, the details thereof and the response received therefrom;
- (d) the details of the rivers to be interlinked in the first phase along with the expenditure likely to be incurred thereon including the names of river links on which development work has already started; and
- (e) the other steps taken/being taken by the Government to ease water crisis in the country along with starting of development work on the river links where it has not commenced so far?

ANSWER

THE MINISTER OF STATE FOR WATER RESOURCES, RIVER DEVELOPMENT AND GANGA REJUVENATION & PARLIAMENTARY AFFAIRS

(SHRI ARJUN RAM MEGHWAL)

- (a) As per data available in this Ministry the average annual water resources potential in the country was assessed as 1869 BCM and given in the Central Water Commission (CWC) report entitled 'Reassessment of Water Resources Potential of India' (1993). The increase in population, agricultural and industrial demands resulted in reduction in per capita water availability. In 1951, the per capita water availability was 5,177 cubic meter per year (i.e. about 5.18 million liters per year). On the basis of the population indicated in 2011 census, the per capita water availability works out to about 1545 cubic meter per year (i.e. about 1.55 million liters per year). In view of topographical constraints and hydrological features, the utilizable water has been estimated to be about 1,137 BCM. (690 BCM surface water as assessed by CWC and 447 BCM ground water as assessed by Central Ground Water Board).

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The per capita average annual water availability in the country is reducing progressively due to increase in population. The average annual per capita availability of water in the country taking into consideration the population of the country as per the 2001 census, 2011 census and the population projections for the year 2025 and 2050 is as under:

Year	Population (In Millions)	Per capita Average Annual Availability (m ³ /year)	Remark
2001	1029 (2001 census)	1816	
2011	1210 (2011 census)	1545	water stressed condition*
2025	1394 (Projected)	1340	water stressed condition*
2050	1640 (Projected)	1140	water stressed condition*

**A per capita availability of less than 1700 cubic metres (m³) is termed as a water-stressed condition while if per capita availability falls below 1000 m³, it is termed as a water scarcity condition.*

(b) to (d) The interlinking of rivers (ILR) programme has been taken up on high priority. The Government is pursuing the ILR program in a consultative manner.

The National Perspective Plan (NPP) was prepared by the then Ministry of Irrigation, now Ministry of Water Resources, River Development & Ganga Rejuvenation (MoWR, RD & GR) in August 1980 for water resources development through inter basin transfer of water, for transferring water from water surplus basins to water-deficit basins. Under the NPP, the National Water Development Agency (NWDA) has identified 30 links (16 under Peninsular Component & 14 under Himalayan Component) for preparation of Feasibility Reports. The Pre-Feasibility Report of the all 30 links have been prepared and circulated to the concerned State Governments by the NWDA. After survey and investigations, Feasibility Reports of 14 links under Peninsular Component and Feasibility Reports of 2 links and draft Feasibility Reports of 7 links (Indian portion) under Himalayan Component have been completed. The comments/views of the concerned States have been received and suitably replied/incorporated in the Feasibility Reports. Present status, States concerned with Inter Basin Water Transfer Links are given in **Annexure**.

Four priority links under Peninsular Rivers Component have been identified for preparation of Detailed Project Reports (DPR) viz; Ken-Betwa link project (KBLP) Phase –I & II, Damanganga-Pinjal link project, Par-Tapi-Narmada link project and Mahanadi-Godavari link project. The preparation of DPR of a project is taken up only after consent of concerned State Governments. Based on the concurrence of the concerned States, DPRs of KBLP Phase-I & Phase-II, Damanganga-Pinjal link project and Par-Tapi-Narmada link project have been completed. The techno-economic clearance and various statutory clearances of the KBLP Phase-I have been accorded except clearance from Central Empowered Committee (CEC) of the Supreme Court. Based on the request of Government of Madhya Pradesh, Lower Orr dam, Bina complex and Kotha barrage projects have been included in KBLP Phase-II. The DPR of these projects have been completed by NWDA/ Government of Madhya Pradesh. The draft Memorandum of Agreement (MoA) for implementation of Ken-Betwa Link Project has been sent to Uttar Pradesh and Madhya Pradesh for concurrence.

The techno-economic clearance of the Damanganga-Pinjal link project has also been accorded, subject to statutory clearances. The DPR of Par-Tapi-Narmada link project has been completed by NWDA. The combined draft MoA for implementation of Damanganga-Pinjal and Par-Tapi-Narmada Link (including the four intra-state link projects of Maharashtra State) has been sent to Maharashtra and Gujarat State Governments for concurrence.

The cost of the above three interlinking projects as per DPR are furnished below:

Sl no	Name of the project	Cost (Rs.in crore)	Year of Price level
1.	Ken-Betwa Link Project	34925	2017-18
2.	Damanganga-Pinjal Link Project	3008	2015-16
3.	Par-Tapi-Narmada Link Project	10211	2015-16

(e) Water being a State subject, steps for augmentation, conservation and efficient management of water resources to ensure sustainability are undertaken by the respective State Governments.

In order to supplement the efforts of the State Governments, the several steps have taken by the Government of India for conservation, prevention and optimum utilisation of available water resources. Some of the major steps undertaken are as under:-

i. A National Perspective Plan (NPP) envisaging inter-basin transfer of water has been formulated by MoWR, RD & GR to improve water security in the country. The implementation of NPP would give added benefits of approximately 35 million hectare of additional irrigation potential and 34000 Mega Watt (MW) hydropower generation apart from the incidental benefits of flood moderation, navigation, drinking and industrial water supply, fisheries, salinity and pollution control etc.

ii. Central Ground Water Board has prepared a conceptual document entitled “Master Plan for Artificial Recharge to Ground Water in India” during the year 2013 envisaging construction of 1.11 Crore Rainwater Harvesting and Artificial Recharge structures in the country to harness 85 BCM (Billion Cubic Meters) of water. The augmented ground water resources will enhance the availability of water for drinking, domestic, industrial and irrigation purposes. The Master Plan has been circulated to all State Governments for implementation.

iii. Central Government has launched Pradhan Mantri Krishi Sinchai Yojana (PMKSY) with the vision of extending the coverage of irrigation ‘Har Khet ko Pani’ and improving water use efficiency ‘More Crop per drop’ in a focused manner with end to end solution on source creation, distribution, management, field application and extension activities. The major objective of PMKSY is to achieve convergence of investments in irrigation at the field level, expand cultivable area under assured irrigation, improve on-farm water use other water saving technologies (More crop per drop), enhance recharge of aquifers and introduce sustainable water conservation practices by exploring the feasibility of reusing treated municipal waste water for peri-urban agriculture and attract greater private investment in precision irrigation system.

PMKSY has been conceived by amalgamating ongoing schemes viz. Accelerated Irrigation Benefit Programme (AIBP) of the Ministry of Water Resources, River Development & Ganga Rejuvenation (MoWR, RD & GR), Integrated Watershed Management Programme (IWMP) of Department of Land Resources (DoLR) and the On Farm Water Management (OFWM) of Department of Agriculture and Cooperation (DAC). MoWR, RD & GR, is to undertake distribution canals, field channels, water diversion/lift irrigation, including development of water distribution systems. Ministry of Agriculture will promote efficient water conveyance and precision water application devices like drips, sprinklers, pivots, rain-guns in the farm “Jal Sanchan”, construction of micro-irrigation structures to supplement source creation activities, extension activities for promotion of scientific moisture conservation and agronomic measures. Programme architecture of PMKSY will be to adopt a ‘decentralized State level planning and projectised execution’ structure that will allow States to draw up their own irrigation development plans based on District Irrigation Plan (DIP) and State Irrigation Plan (SIP).

iv. Central Government has launched the National Water Mission with the objective of conservation of water, minimizing wastage and ensuring its more equitable distribution both across and within States through integrated water resources development and management. One of the goals of National Water Mission is increasing water use efficiency by 20%.

v. Improved water use efficiency in different sectors such as in irrigation (through micro-irrigation, e.g., drip, sprinkler etc.), industry and households is being encouraged through various initiatives, programmes/ schemes of the Government.

vi. Water conservation and water harvesting structures to augment ground water constitute a special focus area for MGNREGA works and about 2/3rd of the expenditure is directly related to construction of such structures.

vii. Recycle and reuse of water, after treatment to specified standards as well as rainwater harvesting and artificial recharge are being incentivized through various initiatives, programmes/ schemes of the Government.

viii. This Ministry has launched Jal Kranti Abhiyan in 2015-16 in order to consolidate water conservation and management in the country through a holistic and integrated approach involving all stakeholders, making it a mass movement.

ix. CWC monitors the live storage status of 91 major reservoirs of the country on weekly basis and is issues weekly bulletin on every Thursday.

ANNEXURE

Annexure referred to in reply to part (b) to (d) of Unstarred Question No. 379 to be answered in Lok Sabha on 19.07.2018 regarding “Inter-Linking of Rivers”.

Present status of Inter Basin Water Transfer Links, the States involved, name of rivers and status of Feasibility Reports/Detailed Project Report

Sl. No	Name	Rivers	States concerned	Status
Peninsular Component				
1	Mahanadi (Manibhadra) - Godavari (Dowlaiswaram) link	Mahanadi & Godavari	Odisha, Maharashtra, Andhra Pradesh, Karnataka, & Chattisgarh	FR Completed
2	Godavari (Inchampalli) - Krishna (Pulichintala) link	Godavari & Krishna	-do-	FR Completed
3	Godavari (Inchampalli) - Krishna (Nagarjunasagar) link	Godavari & Krishna	Odisha, Maharashtra, Madhya Pradesh, Andhra Pradesh, Karnataka & Chattisgarh,	FR Completed
4	Godavari (Polavaram) - Krishna (Vijayawada) link	Godavari & Krishna	Odisha, Maharashtra, Andhra Pradesh, Karnataka, & Chattisgarh	FR Completed
5	Krishna (Almatti) – Pennar link	Krishna & Pennar	-do-	FR Completed
6	Krishna (Srisailem) – Pennar link	Krishna & Pennar	-do-	FR Completed
7	Krishna (Nagarjunasagar) - Pennar (Somasila) link	Krishna & Pennar	Maharashtra, Andhra Pradesh & Karnataka,	FR Completed
8	Pennar (Somasila) - Cauvery (Grand Anicut) link	Pennar & Cauvery	Andhra Pradesh, Karnataka, Tamil Nadu, Kerala & Puducherry	FR Completed
9	Cauvery (Kattalai) - Vaigai -Gundar link	Cauvery, Vaigai & Gundar	Karnataka, Tamil Nadu, Kerala & Puducherry	FR Completed
10	Ken-Betwa link	Ken & Betwa	Uttar Pradesh & Madhya Pradesh	FR & DPR (Ph-I&II) Completed
11	Parbati -Kalisindh-Chambal link	Parbati, Kalisindh & Chambal	Madhya Pradesh, Rajasthan & Uttar Pradesh (UP requested to be consulted during consensus building)	FR Completed
12	Par-Tapi-Narmada link	Par, Tapi & Narmada	Maharashtra & Gujarat	FR & DPR Completed
13	Damanganga - Pinjal link	Damanganga & Pinjal	Maharashtra & Gujarat	FR & DPR Completed
14	Bedti - Varda link	Bedti & Varda	Maharashtra, Andhra Pradesh & Karnataka	PFR Completed
15	Netravati – Hemavati link	Netravati & Hemavati	Karnataka, Tamil Nadu & Kerala	PFR Completed
16	Pamba - Achankovil - Vaippar link	Pamba, Achankovil & Vaippar	Kerala & Tamil Nadu,	FR Completed
Himalayan Component				Contd.
1.	Manas-Sankosh-Tista-Ganga (M-S-T-G) link	Manas-Sankosh-Tista-Ganga	Assam, West Bengal, Bihar& Bhutan	PFR completed

Sl. No	Name	Rivers	States concerned	Status
2.	Kosi-Ghaghra link	Kosi & Ghaghra	Bihar , Uttar Pradesh & Nepal	PFR completed
3.	Gandak-Ganga link	Gandak & Ganga	-do-	Draft FR completed (Indian portion)
4.	Ghaghra-Yamuna link	Ghaghra & Yamuna	-do-	FR completed (Indian portion)
5.	Sarda-Yamuna link	Sarda & Yamuna	Bihar, Uttar Pradesh, Haryana, Rajasthan, Uttarakhand & Nepal	FR completed (Indian portion)
6.	Yamuna-Rajasthan link	Yamuna & Sukri	Uttar Pradesh, Gujarat, Haryana & Rajasthan	Draft FR completed
7.	Rajasthan-Sabarmati link	Sabarmati	-do-	Draft FR completed
8.	Chunar-Sone Barrage link	Ganga & Sone	Bihar & Uttar Pradesh	Draft FR completed
9.	Sone Dam – Southern Tributaries of Ganga link	Sone & Badua	Bihar & Jharkhand	PFR completed
10.	Ganga(Farakka)-Damodar-Subernarekha link	Ganga, Damodar & Subernarekha	West Bengal, Odisha & Jharkhand	Draft FR completed
11.	Subernarekha-Mahanadi link	Subernarekha & Mahanadi	West Bengal & Odisha	Draft FR Completed
12.	Kosi-Mechi link	Kosi & Mechi	Bihar , West Bengal & Nepal	PFR completed Entirely lies in Nepal
13.	Ganga (Farakka)-Sunderbans link	Ganga & Ichhamati	West Bengal	Draft FR completed
14.	Jogighopa-Tista-Farakka link (Alternative to M-S-T-G)	Manas, Tista & Ganga	-do-	(Alternative to M-S-T-G Link) dropped

- PFR- Pre Feasibility Report
- FR- Feasibility Report
- DPR- Detailed Project Report