

Demand for Grants 2023-24 Analysis

Jal Shakti

The Ministry of Jal Shakti is responsible for the development of India’s water resources, and providing quality drinking water and sanitation facilities to all citizens.^{1,2} The Ministry was formed in 2019, by merging the Ministry of Drinking Water and Sanitation into the Ministry of Water Resources, River Development, and Ganga Rejuvenation. The Ministry has two departments, both continuing from the erstwhile Ministries which were incorporated into the Ministry of Jal Shakti.³

This note looks at the proposed expenditure for the Ministry of Jal Shakti for 2023-24, financial trends, and related issues with schemes and programmes of the Ministry.

Union Budget Highlights 2023-24

The Ministry of Jal Shakti has been allocated Rs 97,278 crore in 2023-24.^{4,5} The Department of Water Resources has been allocated Rs 20,055 crore, 43% higher than the revised estimates of the previous year. The Department of Drinking Water and Sanitation has been allocated Rs 77,223 crore, which is a 29% increase over the revised estimates of 2022-23.

Table 1: Budgetary Allocation to the Ministry of Jal Shakti (in Rs crore)

Department	21-22 Actuals	22-23 BE	22-23 RE	23-24 BE	% Change*
Water Resources	17,215	18,968	14,000	20,055	43%
Drinking Water and Sanitation	66,252	67,221	60,029	77,223	29%
Total	83,467	86,189	74,029	97,278	31%

Note: BE is budget estimate and RE is revised estimate.

*% change is change in 2023-24 BE over 2022-23 RE.

Sources: Demands for Grants 2023-24, Ministry of Jal Shakti; PRS.

Department of Drinking Water and Sanitation

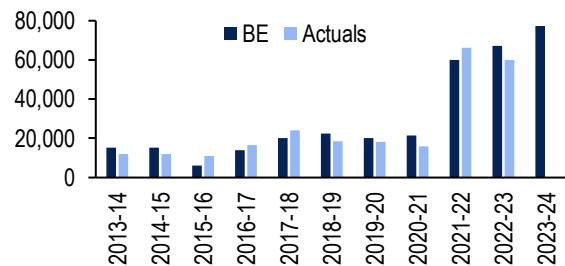
Overview of Finances

The Department of Drinking Water and Sanitation aims to ensure that every citizen has access to clean drinking water and sanitation facilities.² The Department has been allocated Rs 77,223 crore for 2023-24, a 29% increase over the revised estimates of 2022-23. From 2013-14, budgetary allocation to the department has grown by about 18%. However, a significant increase was seen in 2021-22, when the budgetary allocation was more than three times the revised estimates of the previous year. From 2019-20, the focus of expenditure by the Department shifted from sanitation to drinking water.

Major schemes under the Department

The Department implements two major schemes: (i) the Jal Jeevan Mission (JJM), and (ii) the Swachh Bharat Mission - Gramin (SBM-G). JJM aims to provide drinking water through tap connections to every household by 2024.² It also promotes grey water (used water) management, water conservation, and rain water harvesting. The Swachh Bharat Mission was launched as a nation-wide campaign to achieve universal sanitation coverage by 2019. 91% of the budgetary allocation for the department in 2023-24 is for the JJM, and 9% for SBM-G.

Figure 1: Budgetary allocation to the Department of Drinking Water and Sanitation (in Rs crore)



Source: Demands for Grants of the Department of Drinking Water and Sanitation for various years; PRS.

Table 2: Schemes run by the Department of Drinking Water and Sanitation (in Rs crore)

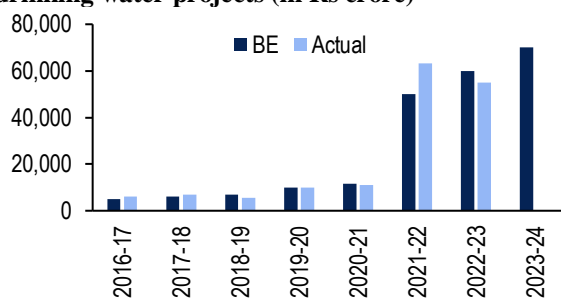
Major Head	21-22 Actual	22-23 RE	23-24 BE	% change (23-24 BE/22-23 RE)
JJM	63,126	55,000	70,000	27%
SBM-G	3,099	5,000	7,192	44%
Others	27	29	31	6%
Total	66,252	60,029	77,223	29%

Source: Demands for Grants of the Department of Drinking Water and Sanitation, 2023-24; PRS.

Key Issues and Analysis

Jal Jeevan Mission

JJM was launched in 2019, subsuming the National Rural Drinking Water Programme, to provide a Functional Household Tap Connection (FHTC) to every rural household (16 crore families).^{6,7} The 15th Finance Commission allocated funds of Rs 2.36 lakh crore to rural local bodies to improve water supply and sanitation. 60% of the fund (Rs 1.42 lakh crore) is to be used exclusively for drinking water, rainwater harvesting, and sanitation facilities. The total estimated outlay of JJM is Rs 3.6 lakh crore between 2019 and 2024.⁷ As on February 16, 2023, total expenditure on the scheme is Rs 1.3 lakh crore.⁸

Figure 2: Budgetary allocation and expenditure on drinking water projects (in Rs crore)

Note: BE is budget estimate. Source: Demands for Grants, Department of Drinking Water and Sanitation for various years; PRS.

There was a significant increase (335%) in allocations to drinking water in 2021-22, due to increased allocation to JJM. For the financial year 2023-24, the JJM has been allocated Rs 70,000 crore, 27% more than the revised estimates of 2022-23.

JJM was launched with the aim of providing all households in the country (19.4 crore) access to FHTCs by 2024.⁷ 3.2 crore households had tap water connections when the scheme was launched. As of February 14, 2023, 7.9 crore households have been provided FHTCs under the scheme. 11.2 crore (57.56%) households in total have tap water connections as of February 14, 2023.⁹

Table 3: Cumulative physical performance of JJM

Month	Number of households provided with FHTC (in crores)	% of households with FHTCs
August 2019	3.2	17%
August 2020	5.3	27%
August 2021	8.1	42%
August 2022	10.1	52%
February 2023	11.2	58%

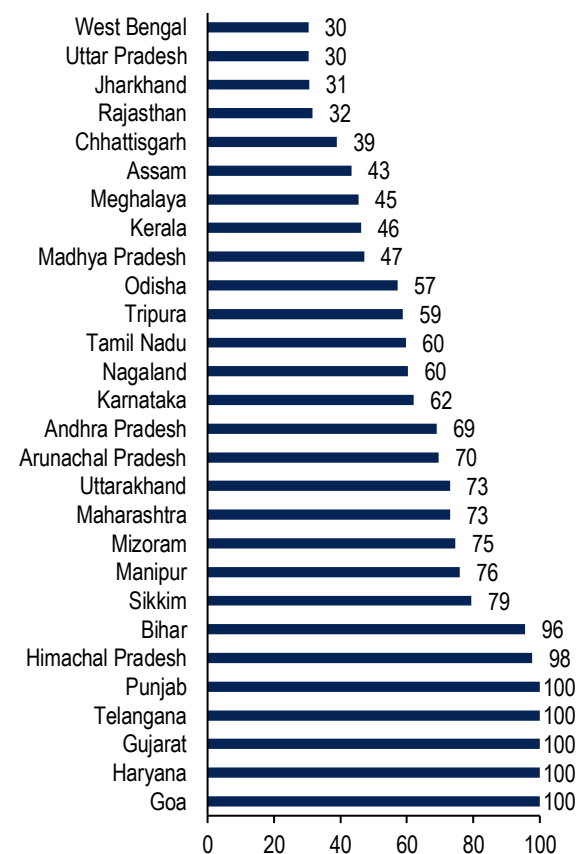
Source: JJM Dashboard, accessed on February 14, 2023; PRS

State governments have flagged several bottlenecks which delay fund utilisation and implementation of JJM.¹⁰ These include: (i) uneven geographical terrain, (ii) scattered rural habitations, (iii) depletion of groundwater, (iv) adverse climatic conditions, (v) fluctuating prices of materials, and (vi) delays in obtaining clearances. The 15th Finance Commission had noted that more than 63% of rural habitations received piped water from groundwater sources.¹¹ This adds pressure to India's over-stressed ground water resources. The COVID-19 pandemic and subsequent lockdowns also delayed the achievement of targets.

Inter-State disparities in achievements

The Standing Committee on Water Resources (2022) noted that several states and UTs had achieved 90%-100% household coverage under JJM.¹⁰ However, they also noted that several larger states, such as Uttar Pradesh, Rajasthan, Madhya Pradesh, and Kerala provided less than 40% of their households FHTCs. The Department identified 13 major states which had more than 95% of households which did not have FHTCs. The issues that these states face in implementing JJM include¹⁰: (i) depletion of ground water, (ii) inability to contribute the state's share in a

timely manner, and (iii) insufficient contributions by the local community.

Figure 3: % of households with tap water supply

Source: JJM Dashboard, accessed on February 14, 2023; PRS.

Quality of water

The Standing Committee on Water Resources (2022) noted that thousands of rural habitations in the country had contaminated water sources.¹⁴ Arsenic, fluoride, iron, nitrate, and heavy metals have contaminated drinking water sources in these habitations. If groundwater is harnessed further through the digging of deeper wells, chemical contamination of these sources could worsen.¹¹

Under the JJM, states/UTs can install Community Water Purification Plants (CWPPs) to provide quality water for basic needs of households, as an interim measure until tap connections are established. The Committee noted that less than 6% of habitations with contaminated water were covered by CWPPs.¹⁰ They recommended that these habitations be brought under the coverage of CWPPs and provided with FHTCs as soon as possible to ensure regular supply of quality water.

Table 4: Number of habitations affected by contaminated water sources

Year	Number of affected habitations
April 2019	57,539
April 2020	54,166
April 2021	36,054
April 2022	27,160
June 2022	26,930

Source: Report No. 19, Standing Committee on Water Resources; PRS.

Swachh Bharat Mission - Gramin

SBM-G was launched in 2014 as a Centrally Sponsored Scheme with the aim of achieving universal sanitation coverage by 2019.⁷ It also focuses on improving cleanliness in rural areas and ending open defecation. By October 2019, all villages in the country had been declared open defecation free (ODF). Phase II of the scheme was launched in 2020, and aims to sustain the ODF status achieved by the country in Phase I, and also cover all villages with solid and liquid waste management.⁷ A village attains ODF plus status if these criteria are met, and the village is visually clean.

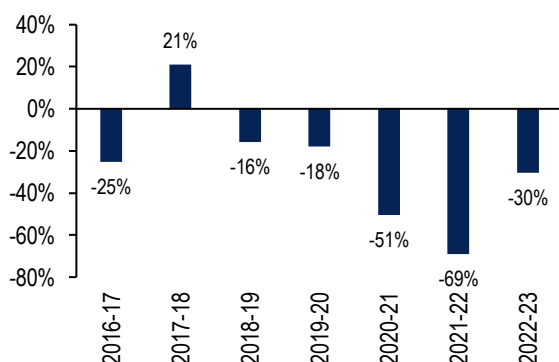
As of February 14, 2023, 1.97 lakh villages (33% of all villages) have achieved ODF plus status (see Annexure I).¹² 1.4 lakh villages have made arrangements for solid waste management, and 1.5 lakh villages have made arrangements for liquid waste management.

The National Annual Rural Sanitation Survey (2019-20) found that 6% of rural households did not have access to toilets and practised open defecation.¹³ Of those families that have access to toilets, 96% were found to have functional toilets. However, only 73% households had water available within the premises of the house. The 15th Finance Commission had noted that piped water supply to rural households was necessary if ODF status of villages was to be maintained.¹¹ This highlights the importance of convergence of JJM and SBM-G.

Fund utilisation worsened in SBM-G Phase II

For the financial year 2023-24, SBM-G has been allocated Rs 7,192 crore. Budget allocations to SBM-G have reduced by 8% since 2016-17. Actual expenditure on the scheme has been lower than the budget estimates since 2018-19. In 2021-22, actual expenditure was 31% of the budget estimate.

Figure 4: Decrease of actual expenditure over budgetary allocation to SBM-G



Source: Budget documents of various years; PRS.

The Department informed the Standing Committee of constraints in utilising funds adequately and achieving targets set under the scheme.¹⁴ SBM-G Phase II involves interventions under solid and liquid waste management activities, which makes this phase more complex than Phase I. Implementing agencies and functionaries at various levels lack capacity to undertake these activities. Existing assets are expected to be utilised for activities under the scheme such as

plastic waste management and faecal sludge management. However, this often requires coordination between rural and urban functionaries.

Table 5: Funds allocated and released to SBM-G (in Rs crore)

Year	Funds allocated	Funds released to States/UTs
2016-17	10,500	10,272
2017-18	16,948	16,611
2018-19	23,176	21,493
2019-20	11,938	10,992
2020-21	6,000	3,892
2021-22	6,000	2,058
Total	83,938	74,412

Source: Unstarred Question No. 443, Rajya Sabha, answered on February 6, 2023; PRS.

Increase in unit assistance

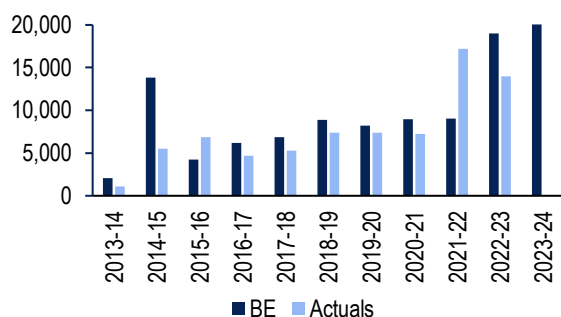
Under SBM-G, financial assistance of Rs 12,000 is being given to beneficiaries for the construction of individual household latrines (IHHLs). The Standing Committee on Water Resources (2022) noted that this amount is grossly insufficient.¹⁰ It does not cover the cost of construction of toilets, including material and labour. They recommended that the unit assistance be increased to Rs 20,000.¹⁰ The Department responded that the total assistance provided to beneficiaries can be increased if states provide additional funds. Currently, the Union government covers 90% of the total cost in the north-eastern states, Himalayan states and Jammu and Kashmir, and 60% of the cost in other states. States have to provide only Rs 1,200 and Rs 4,800 respectively to these two categories of states/UTs. The Department also suggested that beneficiaries be encouraged to contribute their own share to increase ownership.¹⁰

Department of Water Resources, River Development and Ganga Rejuvenation

Overview of Finances

The Department of Water Resources, River Development, and Ganga Rejuvenation aims to achieve poverty reduction, environmental sustenance, and sustainable economic development, through integrated water management.¹ It implements schemes for river basin management, major irrigation, water resource management, and dam maintenance. It also has attached and subordinate offices which provide technical guidance on these matters.

Between 2013-14 and 2023-24, budgetary allocation for the Department has grown at an average annual rate of 25%. In 2021-22, there was a 110% jump in allocation. This was due to additional expenditure on river interlinking projects and the Accelerated Irrigation Benefits Programme (AIBP). Till 2020-21, the Central share for projects under AIBP was raised through loans from NABARD. From 2021-22, budgetary support has been provided for AIBP projects, which increased allocations to the Department.¹⁵

Figure 5: Expenditure between 2013-14 and 2023-24 (in Rs crore)

Note: BE is budget estimate. Actual figure for 2022-23 is revised estimate. Source: Demand for Grants of Ministry of Jal Shakti for various years; PRS.

Major schemes under the Department

In 2023-24, 43% of the total budgetary allocation has been towards the Pradhan Mantri – Krishi Sinchai Yojana (PMKSY). This is followed by the Namami Gange programme (20%), river interlinking (17%), and water resource management (10%). The Department has been implementing various schemes to conserve water resources, improve their quality, and ensure equitable distribution of water in the country. However, these schemes face similar problems in planning and implementation. The Standing Committee on Water Resources (2022) and the CAG (2017,2018) have raised issues related to planning and budgeting for several schemes under the Department. Despite funds being allocated, utilisation is poor.^{17,31,39} Due to these issues, targets remain unmet, or are achieved with significant time and cost overruns.

Table 6: Allocation to the Department of Water Resources (in Rs crore)

Scheme	21-22 Actuals	22-23 BE	22-23 RE	23-24 BE	% Change*
PMKSY	8,541	10,954	7,085	8,587	21%
Namami Gange	1,893	2,800	2,500	4,000	60%
River Interlinking	4,634	1,400	1,100	3,500	218%
ABY	327	700	700	1,000	43%
CWC	363	411	385	460	20%
CGWB	262	282	291	304	5%
DRIP	23	100	25	50	100%

Note: ABY - Atal Bhujal Yojana; CWC – Central Water Commission; CGWB – Central Ground Water Board; DRIP – Dam Rehabilitation and Improvement Programme; *% change refers to 2023-24 BE over 2022-23 RE. Source: Demands for Grants, Department of Water Resources, 2023-24; PRS.

Key Issues and Analysis

Ground Water Management

A study conducted by the Central Water Commission estimated the average per capita availability of water in 2011 at 1,545 cubic meters.¹⁶ It was estimated to reduce to 1,486 cubic meters by 2021. Annual per capita water availability less than 1,700 cubic meters is considered a water stressed condition.¹⁷ 33% of units (blocks/mandals/districts) assessed by the Central Ground Water Board across the country were found to be semi-critical, critical, over-exploited, or completely

saline in 2022.¹⁸

Unsustainable agriculture: In 2022, the overall stage of India's ground water development was 60%.¹⁸ Stage of ground water development is the amount of ground water being utilised as a proportion of ground water recharge. However, this proportion varies across states. Ground water development in Punjab, Rajasthan, Haryana, and Dadra & Nagar Haveli and Daman & Diu was more than 100%, implying that ground water consumption was higher than the recharge. The stage of ground water development for all state/UTs is given in Annexure II.

The Central Ground Water Board has reported that 87% of ground water extracted annually is used for irrigation.¹⁸ The Standing Committee on Water Resources (2022) noted that subsidised electricity and fertilisers incentivised farmers to grow water-intensive crops even in water scarce regions.¹⁷ Rationalising electricity prices could discourage farmers from overconsumption of water. They recommended that the Department of Water Resources work closely with the Ministry of Power, Ministry of Agriculture, and state departments to explore efficient electricity pricing.¹⁷

The government supports producers of major food crops through its procurement policy. Some of these crops, such as rice and sugarcane, are water intensive. The top rice-producing states in 2020-21 were West Bengal, Uttar Pradesh, and Punjab.¹⁹ The top producers of sugarcane were Uttar Pradesh, Maharashtra, and Karnataka. In Uttar Pradesh, ground water in 34% of blocks is (semi)-critical or over-exploited.¹⁸ In Maharashtra, the proportion is 23%. Water intensive crops are grown even in areas which face water scarcity, since farmers receive assured prices for these crops. This has adverse effects on the ground water level in these areas. The 15th Finance Commission recommended that farmers in water stressed areas should be incentivised to adopt methods like drip irrigation or shift away from water intensive crops.¹¹

Atal Bhujal Yojana: Atal Bhujal Yojana was launched in 2020 as a Central Sector Scheme, with an outlay of Rs 6,000 crore.²⁰ It aims to improve the management of ground water resources over five years from 2020-21 to 2024-25. The scheme will be implemented in seven states, which account for 37% of the water-stressed blocks in the country. However, Punjab, which has a ground water development of 166% (2022) is excluded from the scheme.¹⁸ The Ministry has stated that participating states were determined based on consultation, criticality of ground water, willingness, and degree of preparedness.²¹

The scheme was allocated Rs 1,000 crore in 2023-24, 43% more than the budget allocation for 2022-23. However, only around 20% of allocated funds have been released, and less than 15% of released funds have been spent (Table 7).

Table 7: Fund allocation, release, and expenditure on Atal Bhujal Yojana (in Rs crore)

State	Funds Allocated	Funds Released	Expenditure
Gujarat	346	72	22
Haryana	339	54	39
Karnataka	421	2	14
Madhya Pradesh	124	26	0
Maharashtra	408	44	22
Rajasthan	508	67	11
Uttar Pradesh	283	4	0

Source: Atal Bhujal Yojana Dashboard, accessed on February 13, 2023; PRS.

Table 8: Achievement of targets under Atal Bhujal Yojana in 2022-23 (as of February 16, 2023)

Work Undertaken	Target	Achievement	% Achieved
Training Programmes	1,60,055	13,606	9%
Digital/Analog Water Level Indicators	7,410	5,634	76%
Rain Gauge	7,149	1,663	23%
Water Flow Meters	64,857	2,458	4%
Water Quality Testing Kit	6,252	2,703	43%

Note: Targets for equipment refer to the number installed. Source: Atal Bhujal Yojana Dashboard, accessed on February 17, 2023; PRS.

Reducing dependence on ground water: The 15th Finance Commission recommended that surface water sources be utilised optimally to reduce reliance on ground water sources.¹¹ The Jal Shakti Abhiyan, launched in 2019, is a nation-wide campaign aiming to promote water conservation and rainwater harvesting across 256 water-stressed districts in the country.²² The campaign was expanded to all districts across the country in 2021 and 2022. As of February 2023, Rs 23,717 crore has been spent on activities such as rain water harvesting structures, watershed development, and intensive afforestation.²³

In April 2022, Mission Amrit Sarovar was launched to conserve water for the future, by constructing and rejuvenating one lakh ponds by August 15, 2023.²⁴ As on February 16, 2023, more than 95,000 sites have been identified. Work has commenced on 61% of sites, and 54% of works have been completed.²⁵

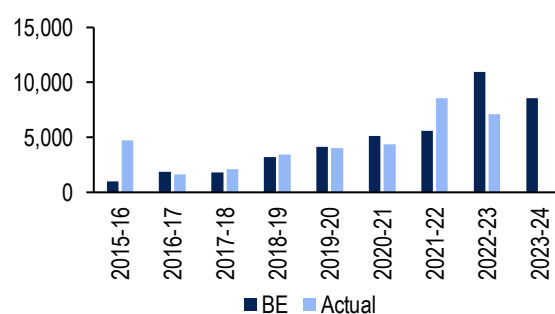
Central Ground Water Board (CGWB): The CGWB is a scientific organisation which develops and disseminates technologies for the sustainable development of the country's water resources.²⁶ The Standing Committee on Water Resources (2022) noted that almost 32% of posts in the CGWB are vacant.¹⁷ Vacancies are 38% in the scientific category and 28% in the engineering category. The Committee was concerned that the lack of human resources would hamper the functioning of the CGWB.

Pradhan Mantri Krishi Sinchai Yojana

PMKSY is a centrally sponsored scheme launched in 2015-16, aiming to (i) increase cultivable area under irrigation, (ii) enhance physical access of water on farms, (iii) improve on-farm water use efficiency, and

(iv) introduce sustainable water conservation practices.²⁷ It consists of four components implemented by three Ministries. The Ministry of Jal Shakti implements the Accelerated Irrigation Benefit Programme, and Har Khet Ko Pani (HKKP). The Watershed Development Component is implemented by the Ministry of Rural Development, and the Per Drop More Crop is implemented by the Department of Agriculture and Farmers' Welfare.²⁷

In 2023-24, PMKSY has the highest allocation within the Department of Water Resources (43%). This is lower than its share in 2022-23 (58%). Since 2015-16, allocation to the scheme has grown at an average annual rate of 36%.

Figure 6: Budgetary allocation and actual expenditure on PMKSY (in Rs crore)

Source: Demands for Grants of the Department of Water Resources for various years; PRS.

Accelerated Irrigation Benefit Programme (AIBP): The AIBP was launched in 1996-97 to provide financial assistance to states, and enable them to accelerate the implementation of major/minor irrigation projects which were held up due to financial constraints.²⁸ In 2023-24, Rs 3,122 crore has been allocated for the AIBP, 3.6% less than the allocation in 2022-23. As of February 6, 2023, about 620 hectares of irrigation potential has been created through this scheme.²⁹ A total expenditure of Rs 23,902 crore has been made on AIBP (with pari-passu implementation of the Command Area Development and Water Management programme under PMKSY-HKPP), and Rs 4,536 crore of Central assistance has been released to states. This includes six new projects taken up under AIBP after 2021-22

The CAG (2018) had noted that the implementation of projects under AIBP has seen time delays and cost overruns.³⁰ While only projects that could be completed in two to four years were meant to be brought under AIBP, actual project completion was delayed by as much as 18 years in some cases. Out of 453 projects audited, only 68% of the targeted irrigation potential was created. Cost overruns were as much as 295% of the original cost for 84 major and medium irrigation projects audited. Shortfall in land acquisition, delays in obtaining statutory clearances, and changes in the design/scope of work have been cited as reasons for poor implementation of AIBP projects.

Table 9: Achievements under Har Khet Ko Pani (as of August 8, 2022)

Sub-Component (Unit)	Target	Performance	% Achieved
Command Area Development & Water Management (lakh ha of cultivable command area covered)	30.23	16.42	54%
Surface Minor Irrigation & Repair, Renovation, and Restoration of Water Bodies (lakh ha of irrigation potential created)	4.50	3.42	76%
Ground Water Development (ha of irrigation potential created)	82,290	70,888	86%

Source: Starred Question No. 235, Rajya Sabha, answered on August 8, 2022.

Flood Management

In 1980, the Rashtriya Barh Aayog estimated that 40 million ha of land in India are flood-prone.³¹ This is about one-eighth of India's total land area. Flood management projects are implemented by state governments/UTs from their own resources.³² The central government provides financial assistance to states to implement some projects in critical areas through the Flood Management and Border Areas Programme (FMBAP). There are currently 83 projects ongoing under FMBAP across 10 states/UTs.³³

Table 10: Funds released by the Central government as part of FMBAP

Year	Funds Released (in crore)
2017-18	563
2018-19	428
2019-20	477
2020-21	48
2021-22	239

Source: FMBAP Dashboard, accessed on February 13, 2023; PRS.

Regulation of flood management: Flood control is not explicitly mentioned in any of the three lists of Schedule VII of the Constitution.³⁴ The Standing Committee on Water Resources (2021) noted that since 'drainage and embankments' is part of the State List, flood control and management is presumed to be the responsibility of state governments.³¹ The Department of Water Resources has stated that the Union government only provides technical and advisory assistance to state governments. However, since several rivers in India flow across state boundaries, measures taken by one state for flood control/management may have consequences for other states in the river basin.³¹ The Committee recommended that 'flood control and management' be brought under the Concurrent List. This could facilitate the creation of an overarching framework for the equitable sharing of water resources across the country.

Flood plain zoning: Flood plain zoning involves identifying areas likely to be affected by floods, and specifying the types of development permitted in these zones.³¹ Proper identification and enforcement of flood plain zoning guidelines can minimise damage during

floods. The 15th Finance Commission recommended that governments should estimate risk exposure and take measures to reduce contingent liabilities.³⁵ The Standing Committee on Water Resources (2021) noted that floodplain zoning has not been performed in India.³¹ The Union government had circulated a Draft Model Bill for flood plain zoning to states. The Bill envisages demarcating flood plains according to flood frequency and defines the types of activities allowed on it.³⁶ However, only four states/UTs (Manipur, Rajasthan, Uttarakhand, and Jammu and Kashmir) have enacted flood plain zoning legislation. Flood prone states like Bihar, West Bengal, and Uttar Pradesh have not enacted this legislation. Delineation of flood plains is still pending.

The Standing Committee had also recommended that a National Embankment Policy be prepared to repair and maintain riverbanks in the country.¹⁵ Embankments are an important structural measure undertaken for flood control, which require timely maintenance and strengthening. However, no such policy has been prepared.

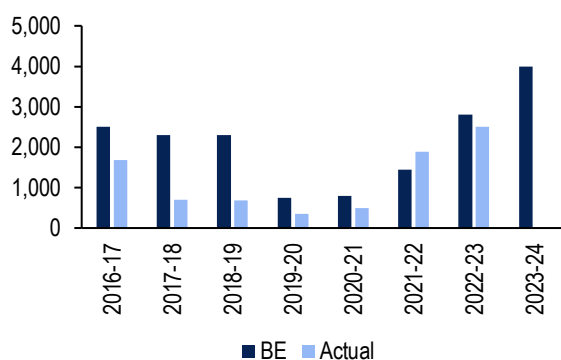
Insufficient focus on planning: Understanding disaster risk is the first key priority of the Sendai Framework for Disaster Risk Reduction.³⁷ Legislative and policy measures such as the Draft Model Bill for flood plain zoning and the National Embankment Policy help improve planning and preparedness for disasters. Capital outlay on flood control measures is estimated to decrease from Rs 5.6 crore in 2021-22 to Rs 1.6 crore in 2023-24.⁴ Lack of planning could lead to improper allocation of scarce funds.

Namami Gange

The Namami Gange Programme was launched in June 2014 with a budgetary outlay of Rs 20,000 crore to rejuvenate the river Ganga and its tributaries.³⁸ It focuses on (i) pollution abatement, (ii) rural sanitation, (iii) riverfront development, (iv) river flow management, and (v) biodiversity conservation.³⁹

The first phase ended in March 2021, following which the scheme was extended till March 2026, with a budgetary outlay of Rs 22,500 crore. In 2023-24, Namami Gange II has been allocated Rs 4,000 crore, 60% more than the revised estimates of 2022-23. This scheme received 20% of the total departmental allocation for 2023-24.

Underutilisation of funds: The Standing Committee on Water Resources (2022) noted that there was significant underutilisation of funds in the Namami Gange programme (Figure 7).¹⁷ Between 2016-17 and 2020-21, actual expenditure was less than 70% of budget estimates. For three of these years, it was less than 45%. There were also disparities between the budget and revised estimates. The Committee noted that continuous disparity between budget and revised estimates indicated deficiency in financial planning by the Department.¹⁷

Figure 7: Budgetary allocation and expenditure on Namami Gange Mission (in Rs crore)

Note: BE is budget estimate. Actual figure for 2022-23 is revised estimate. Source: Demands for Grants of Department of Water Resources for various years; PRS.

Table 11: Funds released and actual expenditure by NMCG (in Rs crore)

Year	Funds Released	Expenditure	% Utilisation
2016-17	1,675	1,063	63%
2017-18	1,423	1,625	114%
2018-19	2,308	2,627	114%
2019-20	1,553	2,673	172%
2020-21	1,300	1,340	103%
2021-22	1,893	1,893	100%
2022-23	1,975	1,614	82%

Source: Unstarred Question No. 1203, Rajya Sabha, answered on February 13, 2023; PRS.

However, utilisation of funds released by the Union government to the National Mission for Clean Ganga (NMCG) frequently went over 100% (Table 11). Funds are released by the NMCG only when states provide utilisation certificates. The CAG (2017) found significant delays in the submission of these certificates by states to the NMCG.³⁹ It noted that this adversely affects the financial and physical performance of the scheme.

Slow progress of projects: Till December 31, 2022, 409 projects have been taken up under the Namami Gange programme, out of which 232 (57%) have been completed and operationalised.³⁸ The total estimated cost is Rs 32,912 crore. The majority of these projects deal with the creation of sewage infrastructure.³⁸ The Committee (2021) noted the slow progress of projects, especially those related to sewage infrastructure.¹⁵ They recommended that measures be taken to remove implementation bottlenecks to avoid cost and time overruns.

Table 12: Progress of Namami Gange Projects (as on March 22, 2022)

Type of Project	Sanctioned Projects	Sanctioned Cost (in Rs crore)	Completed Projects
Sewerage Projects	160	24,568	76
River front, Ghats and crematoria	90	1,553	66
Rural Sanitation	1	1,421	0
Industrial Pollution Abatement	15	1,267	0
Afforestation and biodiversity conservation	41	635	26

Source: Unstarred Question No. 1988, Rajya Sabha, answered on March 21, 2022; PRS.

River Interlinking

Interlinking of rivers involves the transfer of water from water-surplus river basins to water-deficit basins. As per the National Perspective Plan, 30 river-links have been identified by the National Water Development Agency for the preparation of feasibility reports.⁴⁰ Detailed Project Reports have been prepared for eight. The current status of the projects listed under the Inter-Linking of Rivers Programme is given in Annexure III. Implementation has begun for only one, the Ken-Betwa Link Project. It was approved by the Union government in December 2021, with a total outlay of Rs 44,605 crore. In 2021-22, Rs 4,642 was budgeted for the project, and expenditure was Rs 4,634. Budget allocations decreased to Rs 1,400 crore and Rs 3,500 crore in 2022-23 and 2023-24 respectively.

Inter-State Relations: Most river basins in India cross state boundaries. River-linking projects then require cooperation and coordination between states lying in those river basins. The Standing Committee on Water Resources (2022) observed that the main problem in executing river inter-linking projects is the lack of consensus between states.¹⁷ States with surplus water resources may not agree to the water being diverted to other river basins. The Committee noted that in such situations, the central government must engage proactively and address any contentious issues.¹⁷ The Committee also recommended that financial benefits, such as an increased share of devolved taxes, or tax benefits may be provided to incentivise states to participate in river linking projects.

The Ministry has stated that it is applying a consultative approach in dealing with states on river interlinking projects.¹⁷ A legal group has been constituted to investigate legal aspects of river interlinking and formulate enabling provisions. A tripartite agreement was signed between Madhya Pradesh, Uttar Pradesh, and the central government for the Ken-Betwa Link Project.

Annexure I**Table 13: Status of ODF Plus coverage**

State	Total Villages	ODF Plus Villages	% ODF Plus Villages	% of population living in households with improved sanitation facility
Andaman & Nicobar Islands	189	189	100%	88.0
Andhra Pradesh	18,709	4,714	25%	72.1
Arunachal Pradesh	5,357	99	2%	83.4
Assam	25,493	388	2%	68.4
Bihar	36,858	8,575	23%	45.7
Chhattisgarh	18,798	5,522	29%	73.5
D&N D&D	97	97	100%	63.3
Goa	365	204	56%	86.4
Gujarat	18,288	7,211	39%	63.3
Haryana	6,769	1,966	29%	84.6
Himachal Pradesh	15,900	12,284	77%	81.3
Jammu & Kashmir	7,254	4,128	57%	72.3
Jharkhand	29,414	2,999	10%	50.8
Karnataka	26,190	22,272	85%	68.5
Kerala	1,509	569	38%	98.5
Ladakh	238	60	25%	34.8
Lakshadweep	9	9	100%	100.0
Madhya Pradesh	50,365	28,463	57%	59.2
Maharashtra	40,255	5,854	15%	69.4
Manipur	2,556	24	1%	67.5
Meghalaya	5,832	547	9%	83.3
Mizoram	694	246	35%	93.2
Nagaland	1,425	333	23%	90.4
Odisha	46,778	13,910	30%	58.0
Puducherry	108	67	62%	74.0
Punjab	14,041	843	6%	85.9
Rajasthan	42,850	13,545	32%	66.1
Sikkim	403	203	50%	89.3
Tamil Nadu	12,525	11,910	95%	63.3
Telangana	12,769	12,769	100%	72.9
Tripura	1,176	99	8%	71.6
Uttar Pradesh	95,829	31,136	32%	64.8
Uttarakhand	15,049	4,005	27%	77.7
West Bengal	41,443	1,858	4%	64.7
Total	5,95,535	1,97,098	33%	64.9

Note: Improved sanitation facility includes flush to piped sewer system, flush to septic tank, flush to pit latrine, flush to don't know where, ventilated improved pit (VIP)/biogas latrine, pit latrine with slab, twin pit/composting toilet, which is not shared with any other household. Source: Swachh Bharat Mission Grameen 2.0 Dashboard for ODF Plus figures; National Family Health Survey-5 for figures on sanitation coverage; PRS.

Annexure II**Table 14: Stage of Ground Water Extraction in India (2022)**

State	Stage of Ground Water Extraction (%)	State	Stage of Ground Water Extraction (%)
Andhra Pradesh	29	Odisha	44
Arunachal Pradesh	1	Punjab	166
Assam	12	Rajasthan	151
Bihar	45	Sikkim	6
Chhattisgarh	50	Tamil Nadu	76
Delhi	98	Telangana State	42
Goa	24	Tripura	10
Gujarat	53	Uttar Pradesh	71
Haryana	134	Uttarakhand	48
Himachal Pradesh	38	West Bengal	47
Jharkhand	31	Andaman & Nicobar	1
Karnataka	70	Chandigarh	81
Kerala	53	Dadra & Nagar Haveli	133
Madhya Pradesh	59	Daman & Diu	158
Maharashtra	55	Jammu & Kashmir	24
Manipur	8	Ladakh	41
Meghalaya	4	Lakshadweep	62
Mizoram	4	Puducherry	69
Nagaland	3	Total	60

Source: Dynamic Ground Water Resources of India 2022, Central Ground Water Board; PRS.

Annexure III**Table 15: Status of River Interlinking Projects identified under the National Perspective Plan**

S. No	Name	Rivers	States concerned	Status
Peninsular Component				
1(a)	Mahanadi (Manibhadra)–Godavari (Dowlaiswaram) link	Mahanadi and Godavari	Jharkhand, Madhya Pradesh, Chhattisgarh, Telangana, Andhra Pradesh, Odisha, Karnataka and Maharashtra	Feasibility Report (FR) Completed.
1(b)	Mahanadi (Bermul)–Godavari (Dowlaiswaram) link	Mahanadi and Godavari	Jharkhand, Madhya Pradesh, Chhattisgarh, Telangana, Andhra Pradesh, Odisha, Karnataka and Maharashtra	FR Completed.
2	Godavari (Inchampalli)-Krishna (Pulichintala) link	Godavari and Krishna	Odisha, Madhya Pradesh, Chhattisgarh, Telangana, Andhra Pradesh, Maharashtra and Karnataka	FR Completed.
3	Godavari (Inchampalli)-Krishna (Nagarjunasagar) link	Godavari and Krishna	Odisha, Madhya Pradesh, Chhattisgarh, Telangana, Andhra Pradesh, Maharashtra and Karnataka	FR and Detailed Project Report (DPR) Completed
4	Godavari (Polavaram) - Krishna (Vijayawada) link	Godavari and Krishna	Odisha, Madhya Pradesh, Chhattisgarh, Telangana, Andhra Pradesh, Maharashtra and Karnataka	FR Completed.
5	Krishna (Almatti) –Pennar link	Krishna and Pennar	Telangana, Andhra Pradesh, Maharashtra and Karnataka	FR Completed.
6	Krishna (Srisailem)–Pennar link	Krishna and Pennar	Telangana, Andhra Pradesh, Maharashtra and Karnataka	FR Completed.
7	Krishna (Nagarjunasagar)-Pennar (Somasila) link	Krishna and Pennar	Telangana, Andhra Pradesh, Maharashtra and Karnataka	FR and DPR Completed.
8	Pennar (Somasila)–Cauvery (Grand Anicut) link	Pennar and Cauvery	Andhra Pradesh, Karnataka, Tamil Nadu, Kerala and Puducherry	FR and DPR Completed.
9	Cauvery (Kattalai)– Vaigai–Gundar link	Cauvery, Vaigai and Gundar	Karnataka, Tamil Nadu, Kerala and Puducherry	DPR Completed.
10	Ken–Betwa link	Ken and Betwa	Uttar Pradesh and Madhya Pradesh	DPR Completed. Ken-Betwa Link Project has been approved.
11 (i)	Parbati – Kalisindh – Chambal link	Parbati, Kalisindh and Chambal	Madhya Pradesh, Uttar Pradesh and Rajasthan requested to be consulted during consensus building)	FR Completed.
(ii)	Parbati-Kuno-Sindh link	Parbati, Kuno and Sindh	Madhya Pradesh and Rajasthan	Pre-Feasibility Report (PFR) completed.*
12	Par-Tapi-Narmada link	Par, Tapi and Narmada	Maharashtra and Gujarat	DPR Completed.
13	Damanganga – Pinjal link	Damanganga and Pinjal	Maharashtra and Gujarat	DPR Completed.
14	Bedti-Varada link	Bedti and Varada	Maharashtra, Andhra Pradesh and Karnataka	PFR Completed. Draft DPR completed
15	Netravati – Hemavati link	Netravati and Hemavati	Karnataka, Tamil Nadu and Kerala	PFR Completed.
16	Pamba - Achankovil – Vaippar link	Pamba, Achankovil and Vaippar	Kerala and Tamil Nadu	FR Completed.
* Integration of Eastern Rajasthan Canal Project of Rajasthan and Parbati – Kalisindh – Chambal link.				
Himalayan Component				
1	Manas-Sankosh-Tista-Ganga(M-S-T-G) link	Manas, Sankosh, Tista and Ganga	Bhutan and India (Assam, West Bengal and Bihar)	FR completed.
2	Kosi-Ghaghra link	Kosi and Ghaghra	Nepal and India (Bihar and Uttar Pradesh)	PFR completed
3	Gandak-Ganga link	Gandak and Ganga	Nepal and India (Bihar and Uttar Pradesh)	FR completed (Indian portion)
4	Ghaghra-Yamuna link	Ghaghra and Yamuna	Nepal and India (Bihar and Uttar Pradesh)	FR completed (Indian portion)

5	Sarda-Yamuna link	Sarda and Yamuna	Nepal and India (Bihar, Uttar Pradesh, Uttarakhand, Haryana and Rajasthan)	FR completed (Indian portion)
6	Yamuna-Rajasthan link	Yamuna and Sukri	Gujarat, Rajasthan, Haryana and Uttar Pradesh	FR completed
7	Rajasthan-Sabarmati link	Sabarmati	Gujarat, Rajasthan, Haryana and Uttar Pradesh	FR completed
8	Chunar-Sone Barrage link	Ganga and Sone	Bihar and Uttar Pradesh	Draft FR completed
9	Sone Dam – Southern Tributaries of Ganga link	Sone and Badua	Bihar and Jharkhand	PFR completed
10	Ganga (Farakka)- Damodar-Subernarekha link	Ganga, Damodar and Subernarekha	West Bengal, Odisha and Jharkhand	FR completed; DPR in progress
11	Subernarekha- Mahanadi link	Subernarekha and Mahanadi	West Bengal and Odisha	FR completed
12	Kosi-Mechi Link	Kosi and Mechi	Nepal and India (Bihar and West Bengal)	PFR completed
13	Ganga (Farakka)-Sunderbans link	Ganga and Ichhamati	West Bengal	FR completed
14	Jogighopa-Tista-Farakka link (Alternative to M-S- T-G)	Manas, Tista and Ganga	Assam, Bihar and West Bengal	Dropped

Source: Unstarred Question No. 1608, Lok Sabha, Ministry of Jal Shakti, answered on December 15, 2022; PRS.

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