



# Program Information Document (PID)

---

Concept Stage | Date Prepared/Updated: 23-Sep-2022 | Report No: PIDC265101



**BASIC INFORMATION**

**A. Basic Program Data**

Country India	Project ID P179039	Parent Project ID (if any)	Program Name Karnataka Sustainable Rural Water Supply Program
Region SOUTH ASIA	Estimated Appraisal Date 20-Apr-2023	Estimated Board Date 14-Jul-2023	Does this operation have an IPF component? Yes
Financing Instrument Program-for-Results Financing	Borrower(s) Department of Economic Affairs, Government of India	Implementing Agency Rural Development and Panchayat Department, Government of Karnataka, Rural Drinking Water and Sanitation Department, Government of Karnataka	Practice Area (Lead) Water

**Proposed Program Development Objective(s)**

To increase access to safely managed rural drinking water services and strengthen institutions to deliver sustainable services of drinking water to rural communities of Karnataka

**COST & FINANCING**

**SUMMARY (USD Millions)**

<b>Government program Cost</b>	763.00
<b>Total Operation Cost</b>	763.00
Total Program Cost	743.00
IPF Component	20.00
<b>Total Financing</b>	763.00
<b>Financing Gap</b>	0.00

**FINANCING (USD Millions)**

<b>Total World Bank Group Financing</b>	363.00
---	--------



World Bank Lending	363.00
<b>Total Government Contribution</b>	<b>400.00</b>

Concept Review Decision

The review did authorize the preparation to continue

Country Context

1. **In India, the growth rebound in FY21/22 was quick, pulled up by investment, recovering consumer demand.** Real GDP growth moderated from an average of 7.4 percent during FY14/15-FY18/19 to an estimated 3.7 percent in FY19/20<sup>[1]</sup>, mostly due to (i) shocks to the financial sector, and (ii) decline in private consumption growth<sup>[2]</sup>. Against this backdrop, the outbreak of COVID-19 had a significant impact, with real GDP contracting by 6.6 percent in FY20/21<sup>[3]</sup>. On the fiscal side, the general government deficit widened significantly in FY20/21, owing to higher spending and lower revenues<sup>[4]</sup>. However, with the easing of Covid-19 restrictions, Goods and Services Tax (GST) collections have crossed the INR 1 trillion mark every month since July 2021, reaching as high as INR 1.67 trillion in April 2022. The robust GST revenue collections are expected to continue as the economic recovery gathers momentum. The real GDP in FY21/22 expanded by 8.7 percent and exceeded the FY19/20 level, on the back of increased capital expenditure by the government and recovering consumer demand. Given the global concerns on significant uncertainty around the pandemic, elevated inflation, geo-political tensions, and extended supply disruptions, growth in FY22/23 is expected to be 7.5 percent<sup>[5]</sup>. The expected recovery will put India among the world’s fastest-growing emerging economies over the next two years.

2. **Although India has made remarkable progress in reducing absolute poverty in recent years, the COVID-19 outbreak has delayed the course of poverty reduction<sup>[6]</sup>.** Between 2011-12 and 2020-21, India’s poverty rate declined from 22.5 percent<sup>[7]</sup> to values estimated to range between 9 to 12.3 percent<sup>[8]</sup>. However, projections of GDP per capita growth suggest that this estimated decline also includes a reversal of poverty reduction due to the pandemic<sup>[9]</sup>. Labor market indicators from high frequency surveys -including from the Centre for Monitoring Indian Economy (CMIE)- suggest that vulnerability has increased after the pandemic, particularly for urban households (HHs), with a moderate recovery in 2021. Overall, the pandemic and its economic impacts are estimated to have raised urban poverty, creating a set of “new poor” that are relatively more likely to be engaged in the non-farm sector and to have received at least secondary education. In order to respond to the pandemic, Government of India (GoI) has deployed significant resources as part of the Prime Minister Garib Kalyan Yojana (PMGKY) for social assistance, including for urban poor households and migrants.

<sup>[1]</sup> National Accounts Data, National Statistical Office, Ministry of Statistics and Program Implementation (MOSPI).

<sup>[2]</sup> National Accounts Data, National Statistical Office, MOSPI.

<sup>[3]</sup> National Accounts Data, National Statistical Office, MOSPI.

<sup>[4]</sup> Union budget 2021, 2022, Ministry of Finance.

<sup>[6]</sup> World Bank projections. The Government of India has deployed significant resources for social assistance, including towards urban poor households and migrants.

<sup>[7]</sup> Consumption Expenditure Survey 2011-12, National Sample Survey Office (NSSO), Government of India

<sup>[8]</sup> World Bank estimates. Macro Poverty Outlook, October 2021.

<sup>[9]</sup> World Bank estimates. Source: Macro Poverty Outlook, 2020.



3. **Karnataka is located on the western edge of the Deccan peninsular region of India.** The state comprises the Deccan Plateau, the Western Ghats Mountain range, and the coastal plains covering an overall area of 5.8 percent of the total geographical area of India - the sixth largest state by area. The state has seven river basins, with Krishna and Cauvery basins dominating. There is high rainfall diversity with the Western Ghats receiving nearly 4,000 mm rain annually compared to less than 500 mm in the eastern districts, and an overall decline in annual rainfall is predicted for the south-western and north-eastern regions of the state (2021-2050). About 77 percent of Karnataka is arid or semi-arid making the state the second most drought-prone state in India.<sup>1</sup> According to the 2011 census, Karnataka's population counts 61 million people, of which around 60 percent lives in rural areas. The capital, Bengaluru (formerly Bangalore), is a high-tech hub and the state's GDP per capita is approximately USD 3,000 compared to USD 1,900 for India.

### Sectoral and Institutional Context of the Program

4. **Karnataka is expected to face increased challenges due to climate change.** Groundwater levels have been declining at an alarming rate for several decades in many parts of the state, which is attributed to overreliance on groundwater, especially by the irrigation sector, coupled with insufficient groundwater recharge.<sup>2</sup> This has directly impacted the rural water sector as water sources increasingly face water quality issues, become seasonal, or simply dry up; trends that are accelerated by climate change. Ensuring reliable rural water supply in Karnataka is a challenge.<sup>3</sup>

5. **The Jal Jeevan Mission (JJM), launched by the Government of India in 2019, aims to provide every household with a Functional Household Tap Connection (FHTC) by 2024.** The JJM objective is to avail water in adequate quantity, of prescribed quality and on a long-term sustainable basis. The approach is similar to that of other successful national Indian programs on providing amenities such as electricity, toilets and smoke-free kitchens to rural households. The JJM supports single village schemes (SVs) in areas with sufficient groundwater and multi-village schemes (MVs) in areas where groundwater is either not abundant or not of satisfactory quality. The central and state governments have jointly pledged to spend more than USD 44 billion<sup>4</sup> on the national JJM program. According to the official JJM data, the JJM lifted access to FHTC connections from 17 percent in 2019 and up to 51 percent of rural household in 2022.<sup>5</sup> In Karnataka, rural access to FHTC rose from 24 percent in 2019 up to 51 percent in 2022, benefitting almost 3 million households since the launch of the mission. Nonetheless, 49 percent of Karnataka's rural population are still to be served with FHTCs.

6. **The dual approach to rural water supply.** The SVS is the traditional and prevalent service delivery model for rural water supply in Karnataka, where the Gram Panchayat (GP), the lowest level of government, and the Village Water and Sanitation Committee (VWSCs, a GP sub-committee), are responsible for the distribution, and in-village water facilities, including operations and maintenance (O&M), tariff setting, billing, and collection. The GPs own and operate the water scheme with water typically sourced from groundwater. In addition to SVs, the Government of Karnataka (GoK) recently made the strategic decision to use surface water for its rural water supply through larger multi-village schemes (MVs), thus moving the sector to increasingly rely on bulk surface water rather than groundwater. Investments in MVs can be seen as a necessary response to groundwater depletion, water quality concerns and increasing water demand. In Karnataka, MVs can range from smaller schemes comprising 3-5 villages, to larger bulk water supply where one MVs covers more than 500,000 people. To date, Karnataka has invested approximately USD 1.6 billion in around 548 MVs.<sup>6</sup> The MVs are built through Design Build Operate Transfer (DBOT) contracts with private contractors, which include 5-year O&M post-construction contract meant to be re-tendered every 5 years. The MVs contractors are tasked with sourcing, treating, and distributing bulk surface water to village overhead tanks (OHT). From the OHT, the GPs and their VWSCs are

<sup>1</sup> EMPRI and TERI (2013).

<sup>2</sup> <http://cwp-india.org/wp-content/uploads/2018/03/Report-on-Karnataka-SWP-with-regard-to-National-Water-Policy-2012.pdf>

<sup>3</sup> Climate Risk Country Profile – India [https://climateknowledgeportal.worldbank.org/sites/default/files/country-profiles/15503-WB\\_India%20Country%20Profile-WEB.pdf](https://climateknowledgeportal.worldbank.org/sites/default/files/country-profiles/15503-WB_India%20Country%20Profile-WEB.pdf)

<sup>4</sup> Rs. 3.50 lakh crores

<sup>5</sup> JJM Management Information System.

<sup>6</sup> <https://english.swachhamevjayate.org/water-2/>



responsible for the distribution and in-village O&M equivalent to SVSs. Household connections (FHTC) are used for both SVS and MVS schemes. While the shift to bulk surface water supply will ensure more reliable drinking water, mitigate water quality concerns, and provide resilience to climate change, it inevitably brings about higher O&M costs, requires more professional management by private contractors, and necessitates more support from district-level governments.

7. **The long road to cost recovery.** The Indian JJM program supports the move to a cost-reflective tariff but very few states have managed to advance this agenda. In Karnataka, the sector has over the last decades moved from handpumps with low O&M requirements, to electric deep-well pumping systems for SVS, to the emerging energy-intensive multi-village bulk water systems with higher O&M costs. The JJM includes a one-time 10 percent community contribution to the in-village capital investments; this does not include the capital cost of the bulk MVS. In terms of O&M costs, most villages in Karnataka still pay a small monthly flat rate for water, insufficient to cover the O&M costs. With expected public resistance to a volumetric tariff, the state has through the introduction of FHTC connections under the JJM included volumetric meters at every household without introducing a volumetric tariff. The introduction of meters, coupled with community awareness have led to a measured water saving of 40 percent. In some villages, meters were allegedly vandalized as they are believed to eventually lead to a volumetric tariff. Few GPs have successfully introduced a tariff that sufficiently covers the O&M cost, but most GPs have not. The overarching goal for the sector is to achieve long-term financial sustainability. Efforts are made to raise community awareness of the relationship between revenue and cost and how this can support long-term sustainability. Relatedly, no formal arrangements currently exist between the MVS contractors and the benefitting GPs, but the GPs is sought to carry the MVSS' O&M costs in the future.

8. **Groundwater recharge and the emerging issues of greywater management.** The JJM moves water access points from the traditional community standposts to household taps (FHTC) typically placed outside the house and facing the road. The JJM provides 55 liters per capita per day which equates to 275 liters for the average household for drinking, bathing, washing etc. This does create post-use challenges for villages as about 65 percent of the total water supplied reemerges as greywater. Greywater management is a small component under JJM, and the collection, treatment and reuse are included in the villages action plan, however, the JJM does not formally fund such activities, as funding is expected to be sourced from other programs such as the Swachh Bharat Mission (SBM). With regards to groundwater recharge, water tanks have historically been constructed to store water for drinking and irrigation during dry periods. However, tanks increasingly also serve various socio-ecological purposes, among others, soil and water conservation, groundwater recharge and enhanced resilience in the context of floods and drought.<sup>7</sup> Karnataka has recently through tank rehabilitation and other groundwater recharge methods been successful in recharging dried up aquifers in some areas.

9. **Water quality - health, cost, and trust.** In Karnataka, fluoride and nitrate contamination of groundwater is a common challenge along with other contaminants. GoK is investing in a future with safe rural drinking water, but the partial transition to surface water will not include all rural villages, nor solve remaining surface water quality challenges, thus water quality will remain a top priority. To ensure clean drinking water, GoK installed 18,000 reverse osmosis (RO) water treatment plants, one for every village with water quality problems on a 5-year build and operate contract with private contractors. The operators typically charge 2-5 rupees for 20 liters of water. In addition, the state provides water quality test kits to GPs and is building laboratories in each district for routine testing. Nevertheless, there is limited testing capacity for coliforms bacteria such as *Escherichia coli* (*E. coli*) as the microbiological testing capacity is still being built. More data on bacterial contamination, a leading indicator of fecal pollution, could inform decisions to increase the application of chlorination in SVSs which is currently not standard. The state is also yet to develop a modern water quality database where information can easily be accessed by the public. As the states increasingly succeeds in providing clean tap water to every household, a dichotomy may arise where taps provide clean water, but households continue to rely on RO, bottled water, or boiling due to lack of data and confidence on quality. A “drink from the tap” behavior communication change campaign may be considered to unlock the full benefits of clean drinking water at the tap.

<sup>7</sup> V. Ratna Reddy, 2018. “Tank rehabilitation in India: Review of experiences and strategies.” *Agricultural Water Management* 209: 32–43.



10. **With the transitions to bulk surface water, larger water schemes and household connections, reforming the institutional and policy architecture is essential for the achievement of long-term sustainability.** Conscious of the need for reform, GoK has prepared a comprehensive Operations and Maintenance Policy (O&M Policy) with the clear objective to improve institutional capacity and human resources of the Rural Drinking Water and Sanitation Department (RDWSD), GPs and VWSCs to provide sustainable water supply services. The O&M Policy clarifies institutional roles and responsibilities of sector stakeholders, and provide guidance on technical, institutional, and financial sustainability of water schemes in the state. While the pending notification of the policy is a critical milestone for the sector, its operationalization is arguably one of the greatest sector-specific challenges for GoK.

11. **Two decades of World Bank (WB) investments in rural water supply (RWS) in retrospect.** The WB has provided approximately USD 2 billion of support to RWS in India since 1991. In Karnataka, two WB water supply and sanitation projects were implemented from 1993 to 2014. The first Karnataka Rural Water and Sanitation Project (KRWSSP I, 1993-2000, USD 92 million), covered 1,200 villages in 12 selected districts across the state. The second project from 2001-2014 invested USD 151 million in 11 drought prone districts of Karnataka. KRWSSP I was one of the first projects in India to implement a community demand driven (CCD) and decentralized approach with cost sharing by the community towards both capital and O&M costs. The second KRWSP (Jal Nirmal Project-JNP) also sought to assist GoK in increasing rural communities' access to improved and sustainable drinking water and sanitation services. Both projects aimed to institutionalize the decentralization of RWS service delivery. GPs and VWSCs were placed in the 'driver's seat' and capacitated to make decisions, procure materials, carry out construction, manage funds, and contribute towards capital cost. Several organizations supported the GP-level planning, implementation, and operations of the projects.

12. **Lessons learned: While the two prior WB projects were able to establish a culture of paying for water, GPs were generally unable to establish sustainable cost recovery mechanisms; as a result, tariff collection targets were not met.** This impacted larger sector issues regarding scheme sustainability, which the sector is yet to resolve. The approach lacked government participation and leadership from above the GP-levels and the absence of technical capacity hampered sustainable outcomes. Other lessons included a need for third-party engagement on quality assurance, dedicated attention to source sustainability, coupled with an effective modern monitoring and evaluation (M&E) system.

13. **To a large extent, the JJM has incorporated many of the past lessons from implementation of rural water supply initiatives in India.** Different management models are developed for SVSs and MVSs with the latter moving to professional private sector service delivery, along with appropriate efforts for achieving efficient and accountable services. Under JJM, the GPs' prior responsibilities on planning, procurement, and project implementation, have been transferred to the districts who also provide technical post-construction backstopping support to GPs. This transition seeks to balance the importance of GP ownership with a more centralized and professional district-level and private sector support. As an extension of this setup, the JJM engages Implementation Supporting Agencies (ISAs) which are district-level organizations contracted by the districts to mobilize and train the GPs to plan, design, manage, operate, and maintain in-village water supply infrastructure. The ISAs play a crucial role in the last-mile delivery of the JJM and eventually the Karnataka O&M Policy vision. The ISAs are typically contracted for a one-year period with six to eight staff covering an entire district of 100-200 GPs. The JJM's resource allocation to community mobilization (ISA) is arguably underfunded and insignificant compared to similar efforts like the Swachh Bharat Mission but the JJM objective of providing universal and sustainable FTHC may prove equally valuable in the long run.

14. **In contrast to several other state JJM programs, GoK's initiative explicitly aims to resolve the sustainability challenges that have hampered the rural water sector for decades.** The World Bank Program has a unique opportunity to leverage the momentum of both the JJM Program and the Karnataka O&M Policy efforts to support GoK in institutionalizing performance improvements across all levels of government. Where the JJM sets clear targets on water



access, WB's Program will translate the O&M Policy to core technical and financial performance criteria at the state, district and GP levels. The WB is well-placed to support the state systematically institutionalize, operationalize, and monitor performance criteria for new rural water services, an endeavor which otherwise would have proven problematic for the state to achieve at scale. With regards to resilience and groundwater recharge, the Program will seek to broaden the rural water focus to ensure source sustainability.

#### Relationship to CAS/CPF

15. **The Program is consistent with the World Bank Group Country Partnership Framework (CPF) FY18-22** approved by the Board in 2018 (Report 126667-IN). The Program aligns with the WB's twin goals of ending extreme poverty and boosting shared prosperity, and more specifically, with the WB's India Systematic Country Diagnostic (SCD)<sup>8</sup> which highlights protection of water resources to combat water scarcity which is made more urgent by deteriorating water quality. The SCD emphasizes water use efficiency which the proposed program seeks to address through the introduction of volumetric metering and source diversification. The Program also directly aligns with Focus Area 1 of the CPF on Resource Efficient Growth by improving disaster risk management and resilience to climate change and Focus Area 3 on investing in human capital through improvement in access to rural water supply. Relatedly, India's Nationally Intended Determined Contributions - Towards Climate Change<sup>9</sup> identifies the water sector as vulnerable to climate change and its adaptation strategy focuses on the efficient use of water. This aligns the Government's investments in water supply with its wider national goals on climate change.

#### Rationale for Bank Engagement and Choice of Financing Instrument

16. **With this Program, the World Bank has a unique opportunity to leverage international and national lessons on rural water supply**, and to facilitate convergence between its five active water related operations in the state of Karnataka. The current operations include Dam Rehabilitation and Improvement Project (DRIP 2), National Groundwater Management Improvement (ABHY), Rejuvenating Watershed for Agriculture Resilience through Innovative Development (REWARD), Karnataka Urban Water Supply Modernization Project (KUWSMP, P176107), National Hydrology Project (NHP) coupled with analytical work such as the India Water Analytical Program (P176229). This program will facilitate convergence across the ongoing projects, focuses on enhancing climate resilience, integration of water sector activities and groundwater recharge.

17. **The rationale for using the PforR instrument is clear.** The JJM program provides a natural opportunity for the Bank to support the ongoing program in a state where the existing implementing capacity for procurement and financial management is strong and the Government's social and environmental safeguards procedures are in place. The PforR instrument has proven effective in Government programs where the results are clear, in this case installation of functional and sustainable household taps and performance enhancement of the implementing entities of the JJM program. The results can be structured to incentivize institutional and policy reforms at all levels of governments including progressive performance metrics to help the Government evolve the sector as well as leverage sector funds in the long run. A small IPF is included to fund result verification, capacity building, M&E system enhancement, increased engineering capacity among others.

<sup>8</sup> World Bank Group. 2018. India Systematic Country Diagnostic: Realizing the Promise of Prosperity. World Bank, Washington, DC. © World Bank. <https://openknowledge.worldbank.org/handle/10986/29879> License: CC BY 3.0 IGO.

<sup>9</sup> <https://moef.gov.in/wp-content/uploads/2018/04/revised-PPT-Press-Conference-INDC-v5.pdf>



#### Program Development Objective(s)

18. The Project Development Objective (PDO) is to increase access to safely managed rural drinking water services and strengthen institutions to deliver sustainable services of drinking water to rural communities of Karnataka. Safely managed drinking water is defined as an improved water source that is accessible on household premises, available when needed, and is free from fecal and chemical contamination.<sup>10</sup> With regards to “sustainable service”, the Program defines this as technical sustainability, financial sustainability, and the sustainability of the water source.

#### PDO Level Results Indicators

19. **Key results indicators for the proposed project could include:**

- Number of people living in rural areas provided with access to an improved household water tap connection (total/female)
- Indicator of water supply service sustainability (to be defined)
- Monitoring system for water supply services and institutional improvements at GP, district and state level established and operationalized
- Improved financial performance in the rural water schemes (to be defined)
- Indicator on source sustainability (to be defined)

#### PforR Program Boundary

20. **The proposed PforR Program ('P', the Program) will support and strengthen the implementation of the Government of Karnataka's program ('p', the JJM program)** by focusing on a core set of service delivery improvement.

As a subset of the Government program, the boundaries of PforR are defined as follows:

- **Duration**: The Program will be implemented over a period of five years (2023-28).
- **Financing support**: The total program budget is proposed as USD 763 million, with USD 363 million from IBRD-supported Program.
- **Geographical coverage**: The Program will cover all 31 districts of Karnataka. With regards to tank rejuvenation for groundwater sustainability under Result Area 3, the scope will be limited to identified eight water-stressed districts.
- **Services**: The Program will cover: (i) delivery of infrastructure in new and existing single-village schemes with metered household connections, and in-village facilities (such as distribution systems, additional storage reservoirs) where bulk water is available through MVSs, and third party quality assurance (ii) strengthening of existing MVSs<sup>11</sup>, (iii) institutional performance enhancement at state, district and GP levels; (iv) enhancing implementation capacity on greywater management, water quality, energy efficiency, M&E system and (v) investments in climate resilience and source sustainability and recharge through tank rejuvenation and sustainability of tank operations.
- **Implementation responsibility**: The Program will be implemented by the Rural Drinking Water and Sanitation Department (RDWSD) who is the custodian of the state-level JJM program. The district and block units of RDWSD are mandated to implement the program and handover the water assets to the GP. RDWSD will help coordinate Program-level activities, including monitoring and evaluation, and will provide necessary technical and financial support to the relevant service delivery agencies. The Program will be coordinated with the following agencies although they are not expected to have fiduciary responsibilities under the Program: Minor Irrigation and Groundwater Development Department, the Water Resources Department (WRD) including the Advanced Centre for Integrated Water Resources Management (ACIWRM). The Program will be implemented following government systems.

<sup>10</sup> JMP. <https://washdata.org/>

<sup>11</sup> The Program will not finance new MVS but aim to improve the sustainability and efficiency of existing MVSs.





Table 1. Program alignment

	Government program	Program supported by PforR
Objective and duration	To provide every household with drinking water supply in adequate quantity of prescribed quality on regular and long-term basis at affordable service delivery charges leading to improvement in living standards of rural communities.  Duration: 2018-2024	To increase access to safely managed rural drinking water services and strengthen institutions to deliver sustainable services of drinking water to rural communities of Karnataka.  Duration: The state is planning to extend the JJM 2024 closing date to focus on sustainability. The Program will make use of Prior Results to support the JJM timeframe. Post- 2024 will mainly focus on sustainability and O&M aspects.
Geographic coverage	All rural districts of the state of Karnataka	Fully aligned, the PforR includes all 5,659 GPs in Karnataka.
Financing	USD 4.3 billion (2018-2024, planned)	USD 363 million

21. **Program Results Areas.** The Program will support three results areas (RAs) to contribute to the Government program. A total of 5-8 Disbursement Linked Indicators (DLIs) will be developed under the results areas outlined below, and will cover service delivery, technical and financial sustainability, as well as institutional and policy strengthening.

**Results Area 1 - Increase access to sustainable safely managed drinking water**

22. **Provide access to metered household water connections:** This Result Area (RA) will support the delivery of metered household connections through new and rehabilitated single village water schemes. The WB Program seeks to support delivery of 1 million household connections. This RA will also support sustainability of services delivery, O&M, water quality and quantity, and quality of construction.

23. **Infrastructure as an entry point for improved sustainability. Sustainability efforts under RA1 will be focused on new infrastructure whereas RA2 will apply broadly to all existing rural water schemes in the state.** The RA1 sustainability efforts will include 10 percent community contributions to the capital costs, as per the JJM policy. Prior to construction, O&M budget and plans will be prepared along with community awareness building.<sup>12</sup> The current ISA-led community mobilization in Karnataka follows the guidelines of the JJM set out by the GoI. The ambition on metering, cost-recovery and sustainable O&M in Karnataka goes well beyond the scope of the national JJM program, consequently, activities under this RA will increase funding for and efforts on community mobilization and behavior change. These awareness campaigns will include water conservation and demand management techniques for enhanced climate resiliency against drought. Smart bulk water meters will be included to allow remote monitoring of water use, hours of service and water losses.

**Results Area 2: Strengthen policies and institutions to secure universal and sustainable access to rural water services.**

24. **The policies and institutional arrangements required to accommodate the new ambition of rural water supply are still to be adopted and operationalized.** The O&M Policy has been prepared but not notified. The key objectives of the O&M Policy, among others, are to improve the institutional capacity and human resources of RDWSD, districts, GPs and

<sup>12</sup> The current ISA-led community mobilization in Karnataka follows the guidelines of the JJM set out by the GoI. The ambition on metering, cost-recovery and sustainable O&M in Karnataka goes well beyond the scope of the national JJM program, consequently, activities under this RA will increase funding for and efforts on community mobilization and behavior change. These awareness campaigns will include water conservation and demand management techniques for enhanced climate resiliency against drought.



VWSCs to provide (i) effective and sustainable drinking water supply services; and to (ii) clarify institutional roles and responsibilities including those of private operators. The Policy is to provide guidance on technical, institutional, and financial sustainability of rural water supply schemes and to establish a roadmap to cost recovery at the GP and community level from operations of MVS and SVS in the State. Specifically, the Policy includes detailed tariff setting calculations and progressive roll out guidelines along with clear budgeting and reporting guidelines. By institutionalizing this sector policy, the WB Program can leverage global experiences and add value to the state. Thus, achievements towards the notification and institutionalization of sector policies are envisioned as the key disbursement linked indicators under RA2.

**25. Institutional performance metrics and monitoring on service standards and sustainability.** It is essential to ensure that the 20-year design life and operations of the JJM investments is realized. The Program will help the state of Karnataka develop and institutionalize a set of performance criteria at GP, district, and state levels; an approach which has been proven effective in similar WB PforR operations elsewhere<sup>13</sup>. The performance criteria will encapsulate core elements from the O&M Policy and further seek to enhance the focus on planning, gradual cost-recovery, accounting, reporting and system maintenance, but also gender, social inclusion and GRM aspects. The performance criteria will rank GPs in three performance levels, such as 1. basic, 2. JJM and 3. Level of excellence. The higher level could introduce aspirational performance such as adoption of volumetric tariffs, greywater management etc. whereas the basic criteria will include environmental and social safeguards standards, fiduciary standards, GRM, gender equality, water quality reporting, basic budgeting and planning activities. The criteria could be developed so that it differentiates between single and multi-village schemes. A separate set of performance criteria will be developed to enhance district and state-level performance. These performance incentives would apply to all GPs in the state.

**26. Energy and operations expenditures.** Lifting water from deep-wells or distant surface reservoirs is energy intensive but critically important. Some of the State's MVS uses more than five megawatts to power the pumping operation. The energy cost related to water pumping will in many areas be a key determinant of the long-term price of water or the required subsidy to the sector. RA2 will provide an increased focus on energy expenditures through activities such as energy audits, inclusion of energy performance criteria in long-term Design Build Operate Transfer (DBOT)/ Build Operate Transfer (BOT) contracts with private contractors and mainstreaming of SCADA and Internet of Things (IoT) technology. Considerations for integrating inexpensive renewable energy solutions such as solar to pumping systems, will be included along with PPP and energy service company (ESCO) contracting models.

### Results Area 3: Enhance Resilience, Integration and Recharge

**27. GoK is still to develop a comprehensive Water Security assessment and strategy that cuts across departments and enables the state to carry out state-wide long-term planning and decision-making.** The Program will lay the foundation for a comprehensive Water Security Strategy that will support the state in navigating increasing water demand from irrigation, rural and urban sectors and the growing uncertainties attributable to climate change, especially water shortages and droughts. This includes modernization of sector monitoring and reporting systems both for the rural water supply sub-sector specifically, but also modern systems encompassing the entire sector.

**28. The Water Security Strategy will encompass activities that the GoK is already aiming to achieve but is yet to prioritize and sufficiently fund.** The ACIWRM has plans to develop a River Health Index at state and district levels, providing an annual assessment of the health of water systems across a number of important parameters. The World Bank has five lending operations in Karnataka that focus on water. With this operation, there is an opportunity to strengthen the convergence across these projects. This will be explored further in the program preparation phase.

<sup>13</sup> Vietnam: [Results-Based Scaling Up Rural Sanitation and Water Supply Program \(P127435, P152693\)](#); Tanzania: [Sustainable Rural Water Supply and Sanitation Program \(P163732\)](#); and, Bangladesh: [Local Governance Support Project 3 \(P159683\)](#).



29. **Water quality.** RA3 will support the state in modernizing its Water Quality Monitoring Information System (WQMIS) and data governance architecture to make reliable water quality data easily accessible to policy makers and citizens. With its existing 18,000 RO village-level plants, investment in field-kit water testing, laboratories, and the strategic move to surface water, the state of Karnataka is investing in safe drinking water for its rural population. The proposed Program will further support the state in this endeavor with specific attention to prioritize microbiological testing capacity and increased application of chlorine to treat water in single village schemes to address the risk from coliforms bacteria. At rural water schemes where RDWSD is certain of the purity of water, an emergent task will be to build customers' trust in the quality of water supply, potentially through a "drink from the tap" behavioral communication change campaign.

30. **Recharge resilience through tank rejuvenation.** RA3 will incentivize tank rejuvenation and especially the sustainable management of small tanks less than 40 hectares in size. This activity would be focused around eight (8) water scarce districts<sup>14</sup> in the state and focus on institutionalizing tank sustainability. This activity links directly with the overarching goal of promoting source sustainability of the borewells for rural water supply schemes by contributing to the natural recharge of aquifers, making rural area residents more resilient to water shortages and droughts. There are clear synergies between tank rejuvenation and RA1-RA2, especially because the responsibility of small tanks falls to the Gram Panchayats.

### Strategic Support Activities (IPF)

31. **The proposed Program would have a Strategic Support Activity implemented through the World Bank's standard Investment Project Financing (IPF) instrument.** The proposed Program is recognizing the importance of allocating the majority of the financial resources to infrastructure investment, which is why the IPF will be linked to increasing RDWSD's implementing capacity to expedite its JJM investments along with innovation and piloting. The IPF is envisaged to make up 3-8 percent of the IBRD lending allocation. The IPF component will potentially be confined to: i) human resources: support on human resources such as engineering capacity at the project management units at state, district and block levels including international expertise on hydrology etc.; ii) a training strategy, including Field Level Leadership<sup>15</sup> activities, study tours, international partnerships, and training of engineers; iii) the Program's Independent Verification Agent; iv) IT hardware, software and data systems development; v) analytical studies; and vi) financial audits and incremental operating costs.

32. **Citizen engagement.** The department currently uses PARIHARA, a Grievance Redress Mechanism (GRM) software, to redress water related complaints. This Public Grievance & Redressal Application allows complainants to register and track their complaint through various modes such as internet, phone or social media. Several districts have already received more than 1,000 complaints demonstrating the effectiveness of the current GRM. The Program will further strengthen the GRM relating to report generation, feedback mechanism and using customer feedback when closing complaints. The program will also focus on strengthening participatory planning and institutionalizing social audit processes to assess the planning and implementation phase of the schemes.

33. **Gender.** Women and girls suffer disproportionately from the lack of adequate water supply services. The 2022 National Family Health Survey (NFHS-5) shows that the time taken for obtaining drinking water has reduced for higher share of rural households in Karnataka, as compared with NFHS- 4 data. Reduced time in accessing water will yield positive development outcomes, particularly for women and children who bear the burden of water collection over long distances, that has been associated with negative effects on well-being, school attendance, and a higher risk of gender-based

<sup>14</sup> The proposed districts are Bengaluru Rural, Bengaluru Urban, Bidar, Chikka Ballapura, Chitradurga, Kalaburgi, Kolar and Tumakuru.

<sup>15</sup> The Field-level Leadership approach is aimed at creating a broad cadre of change champions at all levels in the public service delivery agencies. This approach has demonstrated positive changes in the attitude and behavior of civil servants and significantly improved project performance.



violence. Further, gender disparities are exacerbated by the relatively low participation of women and vulnerable groups in committees responsible for the planning, implementation, and O&M of water supply facilities. To address under-representation of women in technical job roles, the Program will explore the following entry points during preparation: (a) design of gender-informed HR strategies; (b) creation of safe workplace environments for women professionals; (c) prioritize childcare, flexible work hours, creche facilities and career advancement opportunities for women; (d) offer on-the-job skilling opportunities for women; and (e) enhance participation of women and vulnerable groups as members as well as leadership roles in committees for maintenance of water facilities. The proposed operation is expected to positively contribute to gender inequality through increased participation and representation of women and marginalized groups.

### Environmental and Social Systems Aspects

34. **The Program is expected to have positive achievements of environmental and social (E&S) impacts, resulting in improved access to water, and improved community health.** The Program involves civil works relating to single village schemes, in-village facilities such as distribution systems, metered household connections, and tank rejuvenation. The reduced time and effort of fetching water, particularly for women and girls from marginalized communities, will lead to improvement in quality of life by enabling them to take advantage of other opportunities such as education, alternate/additional livelihoods, or even leisure. The program already has a successful and effective grievance redressal mechanism which will only be further strengthened to include citizen feedback and consultative processes and effective communication strategy during the preparation and implementation phase. Other benefits of this Program on E&S include strengthened rural institutions and resilient communities, which manage their resources optimally in an inclusive and transparent manner.

35. **The concept-stage risk screening across four criteria revealed that the likely E&S effects of the program is Moderate. The likely E&S risk rating for PforR activities is also Moderate.** Potential environmental concerns include limited water availability, groundwater quality, sustained systems for ensuring disinfection of water, implications of sub-optimal construction practices, consequences of reservoir/tank rehabilitation and the need for avoiding impacts on specific environmentally or culturally sensitive areas or structures. The RDWSD has qualified and experienced personnel for establishing and operating rural water supply infrastructure. However, the capacity of the Department on environment management requires substantial strengthening. The prevalent social risk is Moderate given: i) The approach of using existing Right of Way to lay pipelines (which limits land acquisition) and minimizing construction stage impacts; and ii) the inclusion of a negative list of activities relating to tank rejuvenation and construction of additional storage reservoirs to exclude activities that might adversely impact peoples and communities. Other possible social risks could relate to weak information dissemination and community mobilization, extent of coverage of rural drinking water services, and labor safety and rights at sites during construction, operation, and maintenance of WASH facilities. Based on the sexual exploitation and abuse and sexual harassment (SEA/SH) social protection risk screening tool, the risk rating is low. The rating will be re-assessed during preparation stage.

36. **The risk relating to institutional capacity and complexity risks is moderate.** There is vast experience in involvement of local governance institutions and the ISAs to implement the program and more of such measures will be undertaken during this program to further strengthen capacity of all implementation units. Further, there may be some risks related to lack of capacity and limited participation of marginalized communities, such as below poverty line, scheduled castes and scheduled tribes, women in the planning, decision-making and monitoring processes.

37. **The Environment and Social System Assessment (ESSA) to be carried out by the Bank during preparation,** will assess the adequacy of provisions of legal and regulatory framework, implementation capacity, past performance, and methodology, including processes to adequately manage E&S risks and impacts. ESSA will result in an action plan for improving the overall system of the borrower for achieving better environmental and social sustainability results in the



Proposed Program. The IPF component will focus on program verification, training, IT Hardware, software and data systems development, analytical and community mobilization. No construction-related activities are foreseen, thus, the E&S risk rating for IPF component is low. The Bank's Environment and Social Framework (ESF) shall be applicable for this component, and the draft Environmental and Social Commitment Plan (ESCP) and Stakeholder Engagement Plan (SEP) will be prepared, consulted upon and disclosed prior to appraisal. The Program will clearly define the sexual exploitation and abuse and sexual harassment requirements and expectations in the bid and contracting documents, as engaging of consultancy firms and contractors for IPF activities may create opportunities for SEA/SH at the workplace.

Legal Operational Policies	Triggered?
Projects on International Waterways OP 7.50	No
Projects in Disputed Areas OP 7.60	No

Summary of Screening of Environmental and Social Risks and Impacts of the IPF Component

**CONTACT POINT****World Bank**

Name :	Kristoffer Welsien		
Designation :	Senior Water Supply and Sanitation Specialist	Role :	Team Leader(ADM Responsible)
Telephone No :	5220+30651 /	Email :	kwelsien@worldbank.org
Name :	Mariappa Kullappa		
Designation :	Senior Water Supply and Sanitation Specialist	Role :	Team Leader
Telephone No :	5785+47848 /	Email :	mkullappa@worldbank.org

**Borrower/Client/Recipient**

Borrower :	Department of Economic Affairs, Government of India		
Contact :	Mr. Hanish Chhabra	Title :	Director
Telephone No :	01123094140	Email :	hanish.ias@ias.nic.in

**Implementing Agencies**



Implementing Agency :	Rural Development and Panchayat Department, Government of Karnataka		
Contact :	Mr. L.K Atheeq	Title :	Additional Chief Secretary
Telephone No :	08022353929	Email :	lk.atheeq@gov.in

Implementing Agency :	Rural Drinking Water and Sanitation Department, Government of Karnataka		
Contact :	Mr. Gangadhra Swamy G M	Title :	Director
Telephone No :	080-22240508	Email :	krwssd@gmail.com

**FOR MORE INFORMATION CONTACT**

The World Bank  
1818 H Street, NW  
Washington, D.C. 20433  
Telephone: (202) 473-1000  
Web: <http://www.worldbank.org/projects>