Program Information Documents (PID)

Appraisal Stage | Date Prepared/Updated: 04-Jan-2023 | Report No: PIDA273669

BASIC INFORMATION

A. Basic Program Data

Country	Project ID	Program Name	Parent Project ID (if any)
India	P179039	Karnataka Sustainable Rural Water Supply Program	
Region	**Estimated Appraisal Date**	**Estimated Board Date**	**Practice Area (Lead)**
SOUTH ASIA	09-Jan-2023	14-Jul-2023	Water
Financing Instrument	**Borrower(s)**	**Implementing Agency**	
Program-for-Results Financing	India	Rural Drinking Water and Sanitation Department, Government of Karnataka, Rural Development and Panchayat Department, Government of Karnataka	

Proposed Program Development Objective(s)

To increase access to safely managed drinking water and strengthen institutions for sustainable rural water service delivery in Karnataka.

COST & FINANCING

SUMMARY (USD Millions)

Government program Cost	3,449.04
Total Operation Cost	2,840.40
Total Program Cost	2,839.50
Other Costs	0.90
Total Financing	2,840.40
Financing Gap	0.00

FINANCING (USD Millions)

Total World Bank Group Financing	363.00
World Bank Lending	363.00
Total Government Contribution	2,477.40

Decision

The review did authorize the team to appraise and negotiate

B. Introduction and Context

Country Context

1. **India's economy will slow down, coming off a strong recovery in FY21/22 (April 2021–March 2022).** The spillovers from the Russia-Ukraine war and the global monetary policy tightening cycle are expected to weigh on India's economic outlook: elevated inflation on the back of higher prices of key commodities, heightened global uncertainty, and rising borrowing costs will affect domestic demand, while slowing global growth will dampen India's export growth. The growth in FY22/23 will slow to 6.9 percent from 8.7 percent in FY21/22.[1] Domestic demand is expected to remain on a moderate recovery path, despite external headwinds. The Government's strong capital expenditure (CAPEX) program will support investment, while private consumption will benefit from consumer spending in high- and middle-income groups. Net exports will continue to drag growth. The rising merchandise trade deficit will push the current account deficit to 3.2 percent of gross domestic product (GDP) in FY22/23. Due to recovering demand and elevated food and oil prices, headline inflation is expected to stay above the Reserve Bank of India's tolerance range but should gradually ease to 5 percent next year.[2] The Government's gradual fiscal consolidation efforts will be bolstered by strong revenue performance. Goods and Services Tax (GST) collections continue to be strong, having crossed the INR 1 trillion mark every month since July 2021, reaching as high as INR 1.67 trillion in April 2022.

2. **Although India has made remarkable progress in reducing extreme poverty over the past two decades, the COVID-19 pandemic has slowed progress and poses risks to welfare.** Before the pandemic, the share of the population living below US$2.15 per person per day (2017 purchasing power partiy) is estimated to have fallen from 22.5 in 2011 to 10 percent 2019.[3] This was accompanied by a sharp decline in the incidence of multidimensional poverty, from 27.7 percent in 2005/06 to 16.4 percent in 2019/21.[4] However, the pace of poverty reduction has slowed in recent years, with key welfare indicators being slow to improve.[5] More than 40 percent of India's population lived below the lower-middle-income poverty line even before the pandemic.[6] Inequality in consumption has remained stable, with a Gini index of around 35 over the past two decades. Child malnutrition has remained high, with 35.5 percent of children under the age of 5 years being stunted and 67 percent of children ages 6–59 months being anemic in 2019–21.[7] Despite a substantial social protection response from the Government of India (GoI), the

[1] World Bank real GDP forecasts for FY22/23 published in Macro Poverty Outlook, October 2022.
[2] Ibid.
[3] World Bank Poverty and Inequality Platform. https://pip.worldbank.org/country-profiles/IND. In 2004, India's extreme poverty rate was 39.9 percent using the same international poverty line.
[4] UNDP (United Nations Development Programme), OPHI (Oxford Poverty and Human Development Initiative). 2022. 2022 Global Multidimensional Poverty Index (MPI): Unpacking deprivation bundles to reduce multidimensional poverty. New York.
[5] World Bank Poverty and Inequality Platform. https://pip.worldbank.org/country-profiles/IND.
[6] US$3.65 per capita per day (2017 PPP). World Bank Poverty and Inequality Platform. https://pip.worldbank.org/country-profiles/IND.
[7] Government of India, Ministry of Health and Family Welfare, 2022. National Family Health Survey (NFHS - 5), 2019–21 report.

COVID-19 pandemic has likely reversed recent welfare gains, exposed vulnerabilities in the labor market, and posed new risks to welfare. Urban unemployment has increased, with an increasing share of self-employed and casual wage workers, suggesting an incomplete and uneven recovery from the pandemic.[8]

3. **Karnataka is an economic powerhouse that is facing serious water challenges.** According to the 2011 census, Karnataka's population is 61 million, of which around 60 percent lives in rural areas. The state's GDP per capita is approximately US$3,000 compared to US$1,900 for India. Karnataka is India's sixth largest state by area, of which 77 percent is arid or semiarid, making it the second most drought-prone state in India.[9] The state contains seven river basins and has 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 (2021–50). Karnataka is expected to face increased water challenges due to climate change. The state is vulnerable to climate-change-related rainfall variability, leading to droughts and floods, which contribute to groundwater depletion and deteriorating water quality. Almost 60 percent of the state experienced drought conditions of varying severity between 2001 and 2020, and 23 of the 31 districts face acute water scarcity. These water challenges need to be tackled if Karnataka is to deliver safe and reliable water supply to all citizens and make its economy less vulnerable to water stress.

Sectoral and Institutional Context

4. **The Government of Karnataka (GoK) intends to provide every household with a functional household tap connection (FHTC) by 2024 as part of the Jal Jeevan Mission (JJM), launched by the GoI in 2019.** The JJM objective is to supply drinking water in adequate quantity, of prescribed quality, and on a sustainable basis to every rural household in India. The JJM investment is by any measure the largest and most ambitious investment in rural water supply (RWS) in India to date, and the central and state governments have jointly pledged to allocate more than US$44 billion to the JJM program. In 2018, the GoK launched its own program, Jaladhare, to provide all rural households of Karnataka with FHTCs at the earliest to achieve Sustainable Development Goal (SDG) 6.1[10] on safe drinking water. In Karnataka, the Jaladhare[11] infrastructure is being constructed at a record pace, and the Rural Drinking Water and Sanitation Department (RDWSD), the implementing agency (IA) for Jaladhare, is stretching its implementation capacity to achieve the ambitious infrastructure targets. As a result of these efforts, rural access to the FHTC in Karnataka rose from 24 percent in 2019 up to 55.19 percent in 2022,[12] benefiting almost 3 million households since the launch of the program. Nonetheless, 44.81 percent of Karnataka's rural population is still to be served by FHTCs.

5. **Karnataka's experience, over the last three decades, in rural water provision reveals challenges associated with weak ownership of systems and inadequate operations and maintenance.** Although Karnataka has made progess in rural water provision over the past few decades, evidence from earlier

[8] World Bank Macro Poverty Outlook. October 2022. Estimates from PLFS data.
[9] Environmental Management & Policy Research Institute and The Energy and Resources Institute, (2012). Karnataka State Action Plan on Climate Change, 1st Assessment.
[10] SDG 6.1 is defined as: By 2030, to achieve universal and equitable access to safe and affordable drinking water for all. The corresponding indicator is "Proportion of the population using safely managed drinking water services". To meet this criteria households must use an improved source that is: accessible on premises, available when needed, and free from contamination.
[11] This document refers to the Jaladhare program, meaning Karnataka's JJM program which goes beyond 2024.
[12] As of September 9, 2022.

World Bank projects[13] suggests that operation and maintenance (O&M) and sustainability issues have plagued most rural water projects in Karnataka and, more broadly, in India. As per the 73rd Amendment to the Constitution of India, Gram Panchayats (GPs), rural local governments, and their Village Water and Sanitation Committees (VWSCs) are responsible for post-construction operations, maintenance, and service delivery of drinking water. Historically, lack of ownership and inadequate capacity at the GP level have led to poor operational performance. Most GPs have been unable to establish cost recovery mechanisms. Tariff collection targets are not met, leaving critical O&M activities unfunded and undone, resulting in many defunct or partially defunct water schemes. Thus far, the ultimate goal of providing safe water 24/7 to all rural households remains aspirational.

6. **Groundwater depletion and water quality challenges.** Groundwater levels have been declining at an alarming rate for several decades in many parts of the state. This is attributed to overreliance on groundwater, especially by the irrigation sector coupled with insufficient groundwater recharge,[14] which has directly affected the rural water sector as sources simply dry up. Groundwater also suffers from contamination due to fluoride and nitrate, which compounds the problem further. Ensuring reliable rural drinking water in Karnataka is complex as it involves solving a multitude of challenges in a time when the rural population is increasingly demanding a higher level of service.[15] Single-village schemes (SVSs) are the traditional and prevalent service delivery model for RWS in Karnataka where water is largely sourced from groundwater. Efforts to recharge the dwindling groundwater are slowly mounting and small tanks (ponds or reservoirs) are recognized for serving a range of socio-ecological purposes such as soil and water conservation, groundwater recharge, and enhanced resilience in the context of floods and droughts.[16][17] Because of prevalent water quality issues with groundwater, the state also provides water quality test kits to GPs and is building laboratories in each district for routine testing. Nevertheless, there is limited testing capacity for 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 chlorination in SVSs, which is currently not standard. The state plans to develop a modern water quality database where information can easily be accessed by the public.

7. **The transition from groundwater to bulk surface water through multi-village schemes (MVSs).** Along with the groundwater and water quality efforts, the GoK has made a long-term strategic decision to use surface water for most of its rural villages through MVSs where water is sourced from large lakes or rivers and then treated and piped as bulk water to rural villages. While the shift to bulk surface water supply will ensure more reliable drinking water, mitigate water quality concerns, and enhance climate change resilience, it inevitably brings about significantly higher O&M costs and necessitates more support and supervision from district- and state-level governments.

[13] Implementation Completion and Results Report, Second Karnataka RWS and Sanitation Project (2014). Report No: ICR3124.
[14] http://cwp-india.org/wp-content/uploads/2018/03/Report-on-Karnataka-SWP-with-regard-to-National-Water-Policy-2012.pdf.
[15] India https://climateknowledgeportal.worldbank.org/sites/default/files/country-profiles/15503-WB_India%20Country%20Profile-WEB.pdf.
[16] Ratna Reddy, V. 2018. “Tank Rehabilitation in India: Review of Experiences and Strategies.” *Agricultural Water Management* 209: 32–43.
[17] Tank is an ancient approach of harvesting and preserving the local rainfall. It is a water reservoir of any size found throughout India. Tank use is critical in storing water after the monsoon season and can play in important role in recharging groundwater.

8. **Electricity costs and arrears: Two challenges hurting financial sustainability.** The Jaladhare program supports the move toward 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 SVSs and lately the emerging energy-intensive multivillage bulk water systems with household piped-water provision. Presently there are 549 MVSs covering a population of 20 million in Karnataka. Approximately 450 of the MVSs are operational, while the remaining MVSs are under implementation. This climate-resilient service-level improvement with household connections with 55 liters per capita per day (lpcd) is associated with significantly higher O&M costs. The first challenge is that the estimated electricity costs from MVSs amount to US$100 million per year—which is currently borne by the state. The second challenge relates to the fact that GPs have accumulated insurmountable electricity arrears (unpaid electricity bills). The GoK's budget data show that approximately 98 percent of the GPs are largely able to cover their O&M costs from their collection rates, excluding electricity arrears. When arrears are included, only around 40 percent of the GPs are able to achieve cost recovery from their current tariff collection. This is only seven years after the state in 2015 cleared the principal amount on electricity arrears of the GPs. This makes Karnataka's rural water sector reliant on substantial and arguably unsustainable state subsidies. Going forward, the GoK will have to decide if GPs should cover a larger portion of electricity and bulk water supply costs and how the GPs can reduce their energy consumption.

9. **The investment of the century brings the challenge of the century.** Institutions governing rural water infrastructure have an unfortunate record of deferring maintenance, causing the infamous cycle of 'build, neglect, and rebuild'. Should this cycle repeat, there is a real risk that the Jaladhare infrastructure will deteriorate long before its design life, leaving the rural population far short of Jaladhare's drinking water service levels. Resolving this challenge goes beyond RDWSD's civil engineering capacity as it necessitates financial and social engineering, capacity strengthening, and reorientation of institutions toward improved operational performance. Realizing the current shortcoming, the GoK has drafted a comprehensive O&M Policy with the objective of institutionalizing capacity and arrangements that will move the sector toward delivering and maintaining service levels and source sustainability. Among other things, the O&M Policy sets specific targets on water tariffs and bulk water charges between the MVS and the benefitting GPs. While the pending notification of the policy is a critical milestone for the sector, its operationalization is arguably the greatest sector-specific challenge for the GoK.

10. **Introduction of household meters.** Under the Jaladhare program, and in a move beyond the national JJM scope, Karnataka decided in 2019 to include a household volumetric water meter with every FHTC. A few GPs have successfully introduced a volumetric tariff, but most GPs have not. Achieving financial sustainability is important for the sector and efforts are being made to raise community awareness of GP-incurred O&M costs to start a community-led transition to cost recovery; the metered household connections may play a critical role in reaching this goal in the future. Equally important, the meters provide direct evidence of equity in the delivery of rural water services, as the meter readings serve as a proof as to whether water was delivered, and in what quantity, to remote or marginalized households.

11. **Aspirational upgrading to 24/7 continuous water supply service.** Rural water supply is typically available to water users between 4 and 12 hours per day, sometimes less. Providing 24/7 continuous water supply through piped networks has several advantages over intermittent water supply for the benefiting households as they can transition away from the traditional reliance on in-house water storage,

which can lead to microbiological contamination at the point of use if the storage containers are not periodically cleaned. Second, continuous water supply can reduce pumping by 16 percent because of reduced water consumption and hence save energy. This is beyond the scope of both the JJM and Jaladhare but would lead to significant service improvement for rural populations. If done correctly, continuous water supply would bring about significant water and energy savings from avoiding water storage and wastage. Building the capacity to roll out 24/7 service could also allow the GoK to move the sector toward cost recovery by providing a much higher level of service which customers will value. The Program will help demonstrate how 24/7 service can be achieved at scale; if successful, this could also serve as a model for other states to replicate.

12. **Women's employment in technical job roles is critical to Karnataka's growth.** As the state's economy transitions away from agriculture, women's access to nonfarm jobs is a critical factor affecting the state's growth trajectory. Women's workforce participation rate in Karntaka is 31 percent, slightly above the national average of 28.7 percent.[18] However, women's access to technical job roles in off-farm, nontraditional sectors continue to remain poor. In rural Karnataka, women experience multiple barriers in finding paid work opportunities outside of agriculture, and among women who do work, domestic cleaning work is the second most common profession after textile-related jobs. Nonfarm jobs are rare, especially for women.[19] However, RWS activities have good potential to offer women's entry and retention in technical job roles such as plumbers, and this Program will prioritize these efforts.

13. **Building on the long-term engagement between the GoK and the World Bank, the Government has requested the World Bank's assistance to address the above challenges and aspirations.** By engaging with a more advanced state such as Karnataka, there is potential for setting a new benchmark for the Indian rural water sector. The World Bank is well placed to support the state to operationalize its O&M Policy through core technical, social, institutional, and financial performance criteria at the GP level. Such performance criteria relate not just to the actual provision of water supply through construction of infrastructure but also to ensuring that water is available and of the prescribed quality and services are provided equitably. These criteria will include targeted incentives to promote and strengthen institutional capacity that foster a culture of water scheme maintenance and sustained functionality. The Program will support the GoK in institutionalizing a three-pronged approach that will (a) develop a system of incentives for improvements in source, financial, and technical sustainability across all levels of government for improved service delivery; (b) establish a last-mile monitoring system to track performance at the GP level across technical, social, institutional, and financial parameters; and (c) establish a system of 'rewards in installments' to ensure that GPs are incentivized to perform not just at the beginning of the Program but also until the end and beyond. The World Bank has a unique opportunity to support the state to systematically institutionalize, operationalize, and monitor new rural water services performance criteria, which would otherwise have proven problematic for the state to achieve at scale.

PforR Program Scope

14. **Karnataka's Jaladhare program ('p', the program) was announced in 2018 to provide safe and sustainable pure drinking water at the rate of 55 lpcd in rural areas.** The GoK set a goal that all rural households of Karnataka should be provided with FHTCs in a phased manner to achieve SDG 6, at an estimated cost of US$6.5 billion. Through this and other efforts, Karnataka has in the past provided state

[18] Periodic Labor Force Survey (PLFS), Ministry of Statistics and Programme Implementation, 2021.
[19] World Bank analysis, PLFS data 2018/19, 2019/20.

funding and occasionally used counterpart funding for centrally sponsored schemes (CSSs) such as JJM. These combined efforts have helped the GoK move up the ladder on the provision of services to the rural households. The Jaladhare program was aligned to the JJM, when the latter was launched by the GoI in 2019, but the Jaladhare has a more comprehensive scope, specially on sustainability and its mandate goes beyond the JJM's 2024 closing date. Like the JJM, Jaladhare aims to facilitate speed, scale, and a dedicated focus on achieving universal access to the FHTC. The approach is similar to that of other successful national Indian programs on electricity to every household, toilet to every family, and cooking gas cylinders to poor households to make kitchens smoke-free. The Jaladhare program uses MVSs in areas where surface water is available and SVSs sourced by groundwater in areas where surface water is not readily available.

15. **Up to 2024, the GoK will receive 50 percent co-financing from the JJM (CSS) and after 2024, state funding will address any gaps to achieve the goal of 100 percent FHTC coverage.** Through the proposed World Bank-funded Karnataka Sustainable Rural Water Supply Program (KSRWSP, 'P') seeks to improve and sustain O&M of the drinking water infrastructure created under Jaladhare through a combination of community ownership, O&M performance criteria, handholding and capacity building, and an advanced monitoring and evaluation (M&E) system focused on O&M and financial sustainability. This will be financed by (a) the state government through Jaladhare, which will be funded through the state budget; (b) GPs' own sources; and (c) collection of water charges from users.

16. **To a large extent, the Jaladhare program incorporates many of the past lessons from RWS 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 to achieve efficient and accountable services. The GPs' prior responsibilities on planning, procurement, and project implementation have been shifted to the districts which also provide technical post-construction backstopping support to GPs. GPs retain responsibility for management of distribution infrastructure and services within the area under their jurisdiction. This transition seeks to balance the importance of GP ownership with a more centralized and professional district-level and private sector support. The key activities of the Jaladhare program are as follows:

(a) **O&M Policy.** With the transition to bulk surface water, larger water schemes, and household connections, reforming the institutional and policy architecture is essential for the achievement of sustainable service delivery. Conscious of the need for reform, the GoK has prepared a comprehensive O&M Policy with the clear objective of improving institutional capacity and human resources of RDWSD, GPs, and VWSCs to provide sustainable water supply services. The O&M Policy clarifies institutional roles and responsibilities of sector stakeholders and provides guidance on technical, institutional, and financial sustainability of water schemes in the state. The policy sets specific targets on water tariffs and bulk water charges. However, there is insufficient capacity to systematically institutionalize the O&M policy across the 5,963 GPs.

(b) **Jaladhare engages implementation support agencies (ISAs)** which are local 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 Jaladhare 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. Jaladhare's resource allocation to community mobilization (ISA) is arguably underfunded.

Inadequate capacity and strategy to link and synergize social mobilization and local capacity building efforts has hindered the ability of GoK to sustain community engagement in O&M issues.

(c) **Community contribution.** The Jaladhare program includes a one-time community contribution of 10 percent of the total capital investments for the in-village distribution network, which are typically around US$250-300 per household; this does not include the capital cost of the bulk water infrastructure of MVSs. In terms of O&M costs, most villages in Karnataka still pay a flat rate for water ranging from US$0.3 to US$1.2 per household per month. This is generally insufficient to cover the full O&M costs, which include electricity and bulk water charges envisaged under the O&M Policy. The state has, through the introduction of FHTCs under Jaladhare included volumetric meters at every household without introducing a volumetric tariff. Thus, operationalization of the O&M budget exercise and cost-recovery remains unresolved.

(d) **Water quality.** To ensure clean drinking water, the GoK installed 18,000 reverse osmosis (RO) water treatment plants, one for every village with water quality problems under a five-year build and operate contract with private contractors. The GoK has shown interest in approaches to sustainably dipose of reject water from these RO plants. The operators typically charge INR 2–5 for 20 liters of water. In addition, the state provides water quality field test kits (FTKs) to GPs and is building laboratories to NABL standards in each district for routine testing. Laboratories for testing microbiological parameters are not yet built, and public dissemination of periodic water quality results from labs is not practiced.

(e) **Greywater management.** The Jaladhare program moves water access points from the traditional community standposts to household taps typically placed outside the house and facing the road. The program provides 55 liters per capita per day which equates to 275 liters for the average household for drinking, bathing, washing, and so on. This does create post-use challenges for villages as about 65 percent of the total water supplied reemerges as greywater. Greywater from households discharged into the surroundings poses environmental and public health risks. Village-level greywater management plans and implementation through soak pits and waste stabilization ponds are a peripheral yet critical part of the Jaladhare program. Greywater management is a small component under Jaladhare, and the collection, treatment, and reuse are included in the villages action plan; Jaladhare does not formally fund but, rather, facilitates convergence with other programs such as SBM, by sourcing funding from them. State-wide system for planning and implementation of greywater management is pending.

17. **RDWSD has embraced the private sector in its implementation and operation of the Jaladhare program.** For the SVS, the private sector is tasked with construction of the distribtution system along with a one-year maintenance contract. By contrast, the MVSs are built through design-build-operate-tansfer (DBOT) contracts with private contractors, which include five-year O&M post-construction contract meant to be re-tendered every five years. To date, Karnataka has invested approximately US$1.6 billion in 548 MVSs.[20] The MVS contractors are tasked with sourcing, treating, and distributing bulk surface water to village overhead tanks (OHTs). The MVS can range from smaller schemes comprising three to five villages to larger bulk water supply where one MVS covers more than 500,000 people. From the OHTs, the GPs and their VWSCs are responsible for the distribution and in-village O&M equivalent to SVSs. Household

[20] https://english.swachhamevajayate.org/water-2/.

connections are used for both SVSs and MVSs. The 548 MVSs in Karnataka are believed to consume energy to the tune of US$100 million per year. For MVSs, there are considerations to extend the operation period from the current 5 years to 10–15 years, and the proposed Program will seek to include energy efficiency performance criteria for re-tendering the operations contracts for the existing MVSs and carry out energy audits to save energy.

18. **Source sustainability and tank rejuvenation.** The Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) provides livelihood security in rural areas by providing at least 100 days of guaranteed wage employment per year to every household whose adult members volunteer to carry out unskilled manual work. Rejuvenation of minor irrigation tanks with a command area of 40 ha is an important part of MGNREGS' activities. There are clear synergies between MGNREGS and Jaladhare program to promote employment, increase water storage, and recharge groundwater. The Rural Development and Panchayati Raj Department (RDPR) is responsible for small tank rejuvenation as these tanks are under the jurisdiction of GPs.

19. **The KSRWSP Program seeks to augment the GoK's Jaladhare efforts through following three results areas** (RAs) to enable a transition to sustainable and resilient service delivery system: (a) increase access to safely managed rural water supply, (b) strengthen policies and institutions to improve sustainability of rural water services, and (c) improve water source sustainability and climate resilience. The Program will strengthen institutional capacity and enhance resilience to climate change by solving a multitude of technical, financial, institutional, source, and social sustainability issues in RWS.

PforR Program Scope

20. **The proposed Program will support and strengthen the implementation of the GoK's Jaladhare program by focusing on a core set of service delivery improvements.** As a subset of the Government program, the PforR's boundaries are defined as follows:

- **Duration.** The Program will be implemented over five years (2023–28).
- **Geographical coverage.** The Program will cover all 31 districts of Karnataka. With regard to tank rejuvenation for groundwater sustainability, the scope is limited to seven water-stressed districts.[21]
- **Service delivery.** The Program will cover (a) construction/rehabilitation of in-village distribution infrastructure (such as piped network, storage reservoirs) and metered FHTCs as well as quality assurance of the infrastructure; (b) strengthening of operational and energy efficiency in MVSs;[22] (c) institutional performance enhancement; (d) increase implementation capacity on greywater management, water quality, and M&E system; and (e) tank rejuvenation and sustainability.
- **Implementation and readiness.** The KSRWSP will be implemented by RDWSD, the nodal agency, which is the custodian of the Jaladhare program. The district and block units of RDWSD are mandated to implement the Program with post-construction handover of the water assets to the GPs. RDWSD will coordinate Program activities, including M&E, and provide necessary technical and financial support to the relevant service delivery agencies, with support from Panchayat Raj Engineering

[21] The proposed districts are Bengaluru Rural, Bengaluru Urban, Bidar, Chikkaballapura, Kalaburgi, Kolara, and Tumakuru.
[22] GoK has sufficient resources to finance MVSs. The Program will only focus on sustainability and efficiency of existing MVSs.

Division (PRED) which will implement tank rejuvenation.[23] The Program will be implemented following the Government's fiduciary and social and environmental safeguards systems. More than 40 percent of the PforR cost of contracts for civil works are either awarded or ready for award.

21. **Financing support.** The total program budget is proposed as US$2,840.40 million, with US$363 million from the IBRD-supported KSRWSP

C. Proposed Program Development Objective(s)

Program Development Objective(s)

22. To increase access to safely managed drinking water and strengthen institutions for sustainable rural water service delivery in Karnataka.

23. The proposed key result indicators for the Program are as follows:

- People living in rural areas provided with access to safely managed drinking water (Number)
- Gram Panchayats with sustainably functioning water service (Number)[24]
- Sector M&E system enhanced (Yes/No)
- GPs with an annual revenue collection rate above 75 percent (Number)
- Tank rejuvenated in water scarce districts (Number)

24. The intermediary results indicators include 24/7 service delivery in 500 villages, a behavior change communication campaign and a water security strategy among others. It is estimated that 10 million people will benefit from access to safely managed rural drinking water under the Program. Safely managed rural drinking water is an SDG indicator and constitutes the highest level on the Joint Monitoring Program (JMP) drinking water service ladder and is defined as "drinking water from an improved source that is accessible on premises (at the household), available when needed, and free from faecal and priority chemical contamination." The JMP definition is in line with the Jaladhare program where the aim is to provide every rural household with an adequate quantity of water of prescribed quality through an individual household tap connection.

D. Environmental and Social Effects

25. Under the Program, construction of infrastructure would be limited to (a) in-village works such as replacing/laying distribution pipelines, installing house connections/meters/automatic chlorination systems, constructing additional OHTs or borewells wherever required, and so on; (b) small renovation works on existing MVS infrastructure—no new MVS will be financed by this Program; (c) greywater disposal works, including in-village drainage network and final disposal infrastructure; (d) tank rejuvenation works—selected existing tanks of surface area lesser than 40 ha; and (e) construction of a

[23] The Program will be coordinated with the Minor Irrigation and Groundwater Development Department and the Water Resources Department including the Advanced Centre for Integrated Water Resources Management (ACIWRM).
[24] As per the definition of "Basic-level" under DLI 3.1.

new building for housing the Center of Excellence. Most contracts issued under the World Bank-supported PforR operation will be engineering, procurement, and construction ones.

26. In line with the World Bank PforR Guidance, an Environmental and Social Systems Assessment (ESSA) was carried out. The ESSA comprised desk review of relevant systems documents and meetings with RDWSD and PRED officials at the state, district, and divisional levels, along with 'key informant interviews' with VWSC members and beneficiaries. Furthermore, the ESSA identified the risks and opportunities and confirmed compatibility of the Program with the core principles on (a) environmental and social management systems, (b) natural habitats and cultural properties, (c) public and worker safety, (d) land acquisition and livelihoods, and (e) the needs and concerns of vulnerable groups.

27. The Program is likely to have positive social impacts due to an increase in the number of households having access to safely managed rural drinking water services. It is also likely to result in improved health and time savings for communities, particularly women and children at large. Possible key environmental risks include impacts on ecologically or culturally sensitive/protected areas, groundwater stress and contamination-related issues, construction-related impacts, safety aspects in design and construction, waste management/disposal, and worker safety. Since most in-village water supply infrastructure creation/augmentation activities are expected to take place in habitations having some previously created water supply infrastructure, location-related issues such as impacts on ecologically or culturally sensitive areas are likely to be minimal, including in case of construction of the Center for Excellence building that is to be sited on government land without encumbrance. Impacts due to limited groundwater availability and poor groundwater quality will also be largely offset by RDWSD's current focus on supplying bulk water to most villages in the state through the surface water-sourced MVSs.

28. Social risks related to the Program include (a) minor land-related impacts in cases where land is required for in-village infrastructure; (b) possible eviction of informal occupants near existing tanks for bund/waste weir and outlet repairs; (c) likelihood of users and community members facing construction-induced temporary impacts during laying of pipelines, FHTCs, and repair of OHTs; (d) labor welfare, health, and safety risks in case of noncompliance of regulations by contractors; (e) possible inequity in service levels to low-income and marginalized communities which may arise due to poor last-mile connectivity; and (f) inadequate resource allocation and geographical distribution of community outreach which may result in limited awareness and participation of VWSCs and communities in the planning, decision-making, and monitoring process. The ESSA provides a negative list to exclude any activity from the Program that may have significant adverse E&S impacts and are sensitive, diverse, or unprecedented. Thus, the ESSA rated the E&S risks 'Moderate'.

29. Overall, the ESSA found that the E&S policies and legal framework applicable to this sector are largely compatible with the E&S core principles of PforR. The Program is aligned to the JJM, which emphasizes aspects such as source sustainability, water treatment, use of advanced technology, community participation, transparency and inclusion through IEC, social audit, and other support activities. However, the ESSA recommends addressing institutional capacity issues and gaps within RDWSD and PRED across a range of E&S management system limitations. These include (a) hiring E&S staff in RDWSD at the state level as well as environment specialists at the district level who would address Program E&S requirements, (b) augmenting capacity through trainings, (c) conducting E&S screening to exclude activities that involve adverse impacts including avoidance of encumbered public lands, and (d) streamlining the monitoring and reporting process on E&S issues such as land procurement, occupational

health and safety during civil works, citizen engagement, social inclusion, and grievance management. These recommendations will be summarized as actions to be incorporated in the PAP.

30. **Grievance redress.** RDWSD has developed PARIHARA, a grievance redress mechanism (GRM) software, to redress water-related complaints. PARIHARA features include multiple options to file complaints (internet, phone, or social media), user categorization, alert generation, response, real-time monitoring, customer feedback, and escalation flow. The KSRWSP will strengthen PARIHARA by enhancing staff capacity to manage the call center, increase public outreach and awareness, strengthen links with field staff and other relevant agencies for improved efficiency, and extend PARIHARA to tank rejuvenation works.

E. Financing

31. **An Integrated Fiduciary Systems Assessment (IFSA) for the selected IAs (RDWSD and PRED) was carried out in accordance with World Bank Policy and Directive for PforR financing.** The IFSA concludes that present fiduciary systems of IAs together with proposed mitigation measures provide reasonable assurance that the financing proceeds would be used for the intended purposes. Based on the IFSA and given the multiagency engagement for operation and execution, the combined fiduciary risk is rated as 'Moderate'. A Government Order (GO) will be issued by the GoK to operationalize the Program**.** The GO will cover the entire program, the implementation arrangements, budgets, and fund flow arrangements covering all the key aspects of the Program. The GO will include implementation arrangements, results and DLIs to be achieved.

32. **The Program will be subject to 'Guidelines on Preventing and Combating Fraud and Corruption in Program-for-Results Financing', dated February 1, 2012, and revised on July 10, 2015.**These guidelines shall be applied in an unrestricted manner to all activities within the 'Program boundary'.

Program Financing (Template)

Sources	Amount (USD Million)	% of Total
Counterpart Funding	**2,477.40**	**87.22**
Borrower/Recipient	2,477.40	87.22
International Bank for Reconstruction and Development (IBRD)	**363.00**	**12.78**
Total Program Financing	**2840.40**	

.

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 :	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