Karnataka Sustainable Rural Water Supply Program

Environmental and Social Systems Assessment (ESSA)

Decision Meeting Draft

December 2022

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List of Abbreviations

ASHA	Accredited Social Health Activist
CRZ	Coastal Regulation Zone
DTSS	District Technical Support Staff
DPR	Detailed Project Report
DWSM	District Water and Sanitation Mission
E&S	Environment and Social
EHS	Environmental Health and Safety
ESMP	Environmental and Social Management Plan
ESSA	Environmental and Social Systems Assessment
FHTC	Functional Household Tap Connections
GHG	Greenhouse Gas
GoI	Government of India
GoK	Government of Karnataka
GP	Gram Panchayat
GRM	Grievance Redressal Mechanism
HRD	Human Resource Development
IEC	Information Education and Communication
ISA	Implementation Support Agency
ISRA	Implementation Support Resource Agency
JJM	Jal Jeevan Mission
KSRWSP	Karnataka Sustainable Rural Water Supply Program
M&E	Monitoring and evaluation
MVS	Multivillage Scheme
NRDWP	National Rural Drinking Water Program
O&M	Operations and Maintenance
OHS	Occupational Health and Safety
OHT	Over-head Tank
PDO	Panchayat Development Officer
PforR	Program for Results
PRA	Participatory Rural Appraisal
PRED	Rural Development and Panchayat Raj Department
PSR	Preliminary Screening Report
RA	Results Area
RDWSD	Rural Drinking Water and Sanitation Department
RFCTLARR	Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013
RoW	Right of Way
PMU	Program Management Unit
ST/SC	Scheduled Tribe/Schedule Caste
SVS	Single Village Scheme
SWSM	State Water and Sanitation Mission
VWSC	Village Water and Sanitation Committee
WSS	Water Supply and Sanitation
ZP	Zilla Parishad

Executive Summary

Background

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 Government of India (GoI) in 2019. In order to implement the JJM, the GoK introduced the state-wide *Jaladhare* program, which is completely aligned with the GoI program. The Rural Drinking Water and Sanitation Department (RDWSD), nodal agency for the Jaladhare, is making concerted efforts to achieve the approved targets of the JJM (100% coverage). As a result of these efforts, rural access to FHTC in Karnataka rose from 24 percent in 2019 up to 53 percent in 2022, benefiting almost three million households since the launch of the program. Nonetheless, 47 percent of Karnataka's rural population is still to be served by FHTCs.

The proposed "Karnataka Sustainable Rural Water Supply Program" (KSRWSP) aims to support the Government of Karnataka's *Jaladhare* (as a part of the Jal Jeevan Mission) efforts while addressing the interrelated challenges of sustaining rural water supply. The Program Development Objective is to increase access to safely managed drinking water services and strengthen institutions to deliver sustainable services of drinking water to rural communities of Karnataka. The proposed KSRWSP will be implemented over the period of 2023-2028. The World Bank support this program will flow through its Program for Results (PforR) financing instrument and will broadly fund two groups of activities in the state: one pertaining to creation of FHTCs and the other pertaining to tank rejuvenation.

Key Features of the Program

The program area encompasses whole of Karnataka in terms of water supply, covering all 31 districts of the state. However, in respect of tank rejuvenation activities for groundwater sustainability, the scope is limited to identified water-stressed districts. The Program has three Result Areas (RAs) which will enable a transition to sustainable and resilient service delivery systems. These are: (i) Increase access and service to safely managed rural water supply; (ii) Strengthen policies and institutions to improve sustainability of rural water services; and (iii) Enhance climate resilience, water source sustainability and convergence.

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

- People living in rural areas provided with access to safely managed drinking water
- Gram Panchayats with sustainably functioning water service
- GPs submitting core sector performance M&E data through an enhanced monitoring system
- GPs with an annual revenue collection rate
- Tank rejuvenated in water scarce districts

Against each of these result areas, there are Disbursement-Linked Indicators (DLIs) that include:

- Number of households gained access to a FHTC-connection
- Strengthening institutions to ensure safe and reliable water services.
- Institutionalizing and sustaining GP Performance
- Centre of Excellence for Multi-Village Schemes
- Resilience: Tank Rejuvenation

To achieve the key Result Areas and the associated Disbursement-linked indicators, 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, water scheme rehabilitation), and third-party quality assurance (ii) strengthening the operation of existing MVSs , (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, groundwater recharge through tank rejuvenation and sustainability of tank operations by taking up tanks with command area of less than 40 ha in seven (7) water stressed districts. The Program will be implemented by two implementing agencies – (i) the Rural Drinking Water and Sanitation Department (RDWSD) who is the custodian of the state-level Jaladhare program that creates FHTCs and (ii) the Panchayati Raj Engineering Department (PRED), which is responsible for tank rejuvenation. However, the PRED will not have any fiduciary responsibilities under the Program.

The works taken up under the Program will involve only: (a) in-village works such as replacing/laying distribution pipelines, house connections, installing meters, installing automatic chlorination systems, constructing additional OHTs or borewells wherever required, etc.; (b) minor MVS renovation works such as improving safety aspects in water treatment plants/intakes/ground level service reservoirs/clear water reservoirs; (c) greywater disposal works involving laying of in-village drainage network and final disposal infrastructure; (d) establishment of Center of Excellence and (d) tank rejuvenation works implemented exclusively by PRED. All contracts issued under this Bank supported PforR operation will be Engineering, Procurement and Construction (EPC) contracts.

As per current plans of the State Government, most villages in the State are likely to receive clean to potable drinking water supply in bulk from MVS, which will process and treat surface water. However, for villages which cannot be connected to any MVS, the Department has obtained a waiver from the MoDWS for continuing with their earlier pattern of installing RO plants in villages where the groundwater is contaminated. In such village, the piping network will supply untreated water for washing/bathing, while the villagers will be expected to purchase treated water for human consumption from the RO plants.

About ESSA

In line with the World Bank's requirements for using the PforR instrument, as stipulated in World Bank Policy: Program-for-Results Financing (Policy) and Bank Directive Program for Results Financing Directive, an Environmental and Social Systems Assessment (ESSA) was conducted, and this report was prepared. This ESSA examined: (i) the potential E&S effects of the Program (including direct, indirect, induced, and cumulative effects as relevant); (ii) the borrower's capacity (legal framework, regulatory authority, organizational capacity, and performance) to manage those effects; (iii) the comparison of the borrower's systems — laws, regulations, standards, procedures, and implementation performance — against the core principles and key planning elements to identify any significant differences between them that could affect Program performance; (iii) the likelihood that the proposed Program achieves its E&S objectives; and (v) recommendation of measures to address

capacity for and performance on policy issues and specific operational aspects relevant to managing the Program risks (e.g. carrying out Staff training, implementing institutional capacity- building programs, developing and adopting internal operational guidelines) through a Program Action Plan. The assessment took into account various Bank requirements that include preliminary screening, stakeholder engagement, analysis, grievance mechanism, recommendations and disclosure.

Methodology

The methodology included: (a) secondary literature review, (b) screening, (c) consultations – field-level and state-level; (d) analysis and synthesis of E & S systems strengths & areas for improvement; which is followed by (e) preparing the ESSA report. Community consultations, key informant interviews and focus group discussions were held between September and November 2022. The draft ESSA was disclosed at a Stakeholder consultation workshop that aimed to elicit feedback, comments, and suggestions from various relevant stakeholders. The draft ESSA was revised and finalized based on the feedback obtained.

Key issues, impacts and risks

Environment

The Program is expected to accrue a variety of environmental benefits, such as improved water supply services (both quantity and quality), better water quality management, improved groundwater recharge, better energy management and improved community health. Key Environmental risks include impacts on ecologically or culturally sensitive/protected areas, groundwater stress issues, groundwater quality, 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. Impacts due to limited groundwater availability and poor groundwater quality will be largely offset by the RDWSD's current focus on supplying bulk water to most villages in the state through a surface-water source based MVS. Groundwater availability/quality issues may have to be dealt with only in those schemes which cannot be connected to an MVS.

Further, there may be some construction stage EHS issues associated with the in-village water supply infrastructure creation, MVS renovation, grey water management system installation and tank rejuvenation activities. Such issues may be temporary in nature and could require appropriate measures to manage any potential adverse impacts These would include (i) debris/waste management, (ii) dust/air quality management, (iii) site and worker safety issues pertaining to construction activity, and (iv) health risks to workers and community if there is negligence in adhering to worker safety and health standards. Given the low-scale nature of construction activities, these risks will be moderate.

Social

The findings of ESSA suggest that social impacts of the Program are likely to be positive owing to an increase in the number of households having access to sustainable safely managed rural drinking water services. In addition, improved water supply connections are likely to result in improved health and time savings for communities, particularly women and children at large.

While the Program presents an opportunity to enhance social benefit and improve larger system and processes, a few issues of significance include the following: (i) Minor land related impacts in cases where land is required for in-village infrastructure. Given the approach of using existing Right of Way to lay pipelines and Government/ GP land for SVS (OHTs), land related impacts will be low to moderate. (ii) Possible eviction of informal occupants near existing tanks for bund/ waste weir and outlet repairs is another concern. (iii) Users and community members may also face construction-induced temporary impacts during laying of pipelines, FHTCs and repair of OHTs. (iv) Further labour health and safety aspects require Contractor's adherence to provisions under existing laws and these require to be monitored. (v) Possible inequity in service levels to low-income and marginalized communities may arise due to poor last mile connectivity even though JJM/Jaladhare program focusses on 100% FHTC coverage. Lastly, (vi) inadequate resource allocation and geographical distribution of community outreach may result in limited awareness and participation of VWSCs and communities in the planning, decision-making and monitoring process. Risk related to these aspects is low, as the JJM/Jaladhare program focuses on strengthening citizen feedback, grievance redressal mechanism and relies on consultative processes during the preparation and implementation phase. The risks associated can be mitigated through staff augmentation by having one full-time social safeguards staff and training / capacity building initiatives. Overall, the social risk was found to be low-to-moderate. 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.

National and State Legal Framework

Environment

The legal framework includes procedural requirements, standards and practices. There are both the national and state legal framework. At the national level, these are the applicable legislations: Environment (Protection) Act 1986, Air (Prevention and Control of Pollution) Act 1981, Water (Prevention and Control of Pollution) Act 1974, Noise Pollution (Regulation and Control) Rules 2000, Construction and Demolition Waste Management Rules 2016, Solid Waste Management Rules 2016, Plastic Waste Management Rules 2016, Forest legislation (Indian Forest Act 1927, Forest Conservation Act 1980 and Forest Rights Act 2006), Wildlife (Protection) Act 1972, Labour Act 1988 and Ancient Monuments and Archaeological Sites and Remains Act 1958, and associated rules.

At the state level, these are the applicable legislations: Karnataka Ground Water (Regulation and Control of Development and Management) Act, 2011, Karnataka Ground Water (Regulation and Control of Development and Management) Rules, 2012, The Karnataka Groundwater (Regulation for Protection of Sources of Drinking Water) Act, 1999, The Karnataka Forest Act, 1963, Karnataka Forest Rules, 1969, The Karnataka Preservation of Trees Act 1976, Karnataka State Policy on Integrated Waste

Management, The Karnataka Panchayat Raj (Management of Solid Waste) Model Bye-laws, 2020, Karnataka Ancient and Historical Monuments and Archaeological Sites and Remains Act, 1961, Karnataka Ancient and Historical Monuments and Archaeological Sites and Remains Rules, 1966, and Karnataka Act No. 50 Of 2020: Lakkundi Heritage Area Development Authority Act, 2020

For in-village water supply infrastructure creation activities, the applicable regulations cover most EHS-specific requirements, but mandate no specific procedural requirements. However, permission for drilling borewells in districts notified by the Groundwater Authority is necessary wherever applicable. If there are any location-specific situations pertaining to environment during implementation, such as location in forests/protected areas, historical/cultural structures, etc., commensurate procedural requirements, such as permission from Competent Authorities will apply. It is imperative that design standards and construction practices aligned with the National legal framework are adopted.

Social

Robust national and state level legal framework exists governing the functioning of RDWSD in general and social aspects relevant to stakeholders. The 73rd Amendment to the Constitution of India in 1992, has placed the subject of drinking water in the 11th Schedule of the Constitution wherein its management was assigned to the Gram Panchayats. Since then, many schemes and programs such as the National Rural Drinking Water Program (NRDWP) which is now subsumed under the JJM, have been initiated. Some of the policies and legislations that were found to be relevant include: National Water Policy 2012; Minimum Wages Act, 1948; Child Labour (Prohibition and Regulation) Act 1986; Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement (RFCTLARR) Act, 2013; National Policy on Tribal Development, 1999; Right to Information Act, 2005; The Sexual Harassment of Women at Workplace Prevention, Prohibition, and Redressal Act 2013; The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Central Rules, 1998; Inter-State Migrant Workers Act 1979.

At the state level, the following legislations are found to be relevant: Karnataka Gram Swaraj and Panchayat Raj Act, 1993; Karnataka State Rural Sanitation Strategy; Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement (Karnataka Amendment) Act, 2019; Land Purchase through Negotiated Settlement (Government Order no: RD 54 LAQ 2014); Karnataka Land Revenue Act, 1964; and The Karnataka Scheduled Caste, Scheduled Tribes and Other Backward Classes (Reservation of Appointments, etc.) Act, 1990.

This Program does not entail any procedural requirement such as a clearance or permission or consent as per the legal framework. The recent state amendment to RFCTLARR Act exempts certain infrastructure projects such as water supply, from undertaking social impact assessment prior to land acquisition. However, land requirement for in-village infrastructures is mostly met through available revenue/GP land**.** The program would not involve any construction where private land acquisition is required. Any minor land taking for siting of OHTs, etc. shall be done through donation by individuals/communities and Block office shall ascertain voluntariness and also that it does not lead to significant adverse impacts on the livelihood of the household. During construction, contractors shall

have to comply with applicable legal provisions as presented above, in the form of obtaining required licenses and submitting periodic compliance reports. The RDWSD, PRED and other implementation partners shall have to comply with the procedures and notifications in addition to the national & state legal framework.

Assessment of Institutional Systems – Regulatory

As mentioned earlier, although comprehensive overarching legal and regulatory provisions exist at the National and State levels, no specific procedural requirements relating to environment are mandated. However, general environmental standards and good practices need to be adopted and followed. Similarly, there are no procedural requirements related to social issues as well. The contractors engaged for works are required to comply with all applicable Environmental, Social and Labour regulations, which would need to be monitored by RDWSD and PRED. Standard practices of RDWSD and those outlined in the JJM guidelines are applicable. There are no significant gaps in the National and State level regulatory systems vis-à-vis the Bank's Program that need to be addressed.

Assessment of Institutional Systems – Program Level

Environment

While compliance to all applicable environmental regulations, health and safety norms are implicit in all tendering and contracting formalities, no EHS-specific screening, monitoring and reporting procedures are present in the program level systems. There are no dedicated environment specialists in RDWSD and PRED staff/institutional structure either to undertake the above functions. There is a need to establish a full-time Environmental Specialist position in RDWSD at both headquarter as well as district level, which will also support PRED execution works. Structured environmental screening and management procedures during the scheme planning (bid evaluation, DPR preparation, etc.) and implementation also need to be developed and streamlined. Capacity within the contractor, consultants and third-party monitoring agencies to address environmental risks needs to be enhanced as well. All these actions together will help to effectively manage the EHS impacts of RDWSD and PRED's activities under the Program.

Social

Currently, identification of social risks prior to commencement of infrastructural works is not carried out. Development of village action plans based on consultative meetings, and preparation of DPRs provide opportunities to undertake such screening. While clauses on labour laws are integrated in the contractors' contracts/bid documents, systems to monitor and report on community and workers' health, safety, and security needs strengthening. Further, aspects largely relating to land taking and encroachment particularly in tank areas are managed with fencing to demarcate the area, along with adequate processes and provisions in form of prior notifications to address encroachments. One hundred (100%) coverage of all households ensures that no vulnerable household will be left without connection. In case of RDWSD, communication and customer outreach mechanisms are in place and functioning effectively through usage of Implementation Support Agencies, consultants for IEC, HRD

etc. Further, RDWSD has a dedicated grievance redressal system- Parihara which is well established and functional. The system features multiple channels to file complaints, user centric categorization, alert generation, response, real-time monitoring, customer feedback, and escalation flow. Institutional capacity of PRED and RDWSD require strengthening to manage social risks relating to land, encroachment, construction impacts and labour.

Findings – Highlights

Environment

On the environmental aspects, here are the main findings of the ESSA:

- Possible negative environmental impacts include unsustainable water sources in few places, poor water quality, water wastage during bulk supply and distribution, impacts on ecologically sensitive areas and/or cultural heritage sites due to construction of in-village WSS infrastructure, inadequate tank catchment protection, improper grey water collection/disposal arrangements and construction-related environmental, health and public safety impacts.
- The environmental impacts associated with the Bank's Program are localized, low to medium intensity and reversible through appropriate safeguard measures. Hence, the environmental risks are moderate. Some issues of concern such as groundwater stress and quality have been already addressed by the RDWSD's latest policies and actions such as connecting habitations to MVS, based on surface water sources.
- RDWSD and PRED capacity on ability to assess and address scheme specific EHS/OHS issues needs to be enhanced substantially. The departments also do not have dedicated procedures focused on assessing and addressing scheme-specific E&S aspects or specialist staff for undertaking Environmental due-diligence or monitoring functions. Therefore, in addition to allocation of additional staff and resources for environmental risk management, appropriate screening and mitigation planning procedures for identifying, addressing and monitoring environmental impacts must be developed and adopted.
- Currently, RDWSD and PRED tendering and contract documents do not cover scheme-specific E&S requirements that become part of the contractor's contractual obligations. Thus, scheme specific ESMPs will need to be introduced for managing EHS/OHS issues during design, construction, and O&M stages. The ESMP, prepared along with the DPR, should form a part of the bid/contracting document. It is recommended that technical sanction procedure be modified to evaluate the ESMP before clearing the DPR. During the bid evaluation, the contractor's past E&S performance and methodology for complying with ESMP should be made evaluation criteria.
- During construction phase, RDWSD and PRED do not have any mechanism/system to monitor and report on ESMP compliances. It is recommended that ESMP monitoring be undertaken and documented in a standardized manner.
- Once the works completed, RDWSD and PRED officials must also verify satisfactory inclusion of EHS features in the infrastructures.
- It is also recommended that a third-party Environmental Audit is undertaken on the project – the first one at mid-term stage and the second one just before project closure. These Environmental Audits will assess the extent to which the Environmental due-diligence procedures in the project have been effectively applied and implemented.

Social

The social policies and legal framework applicable to this sector were found to largely compatible with the core E&S principles of PforR. The program is aligned to the Jal Jeevan Mission, which emphasizes on participation, transparency and inclusion through IEC, PRA, social audit and other support activities. The assessment has identified certain gaps, specifically on adequacy of social management system at the state and district level. Key highlights are summarized below:

- Currently, social risks screening prior to commencement of infrastructural works are not being carried out under the program. While development of village action plans, preparation of DPRs provide opportunities to undertake E&S assessments/screening, this seems to be a clear gap in the current system.
- Institutional capacity of PRED for management of social risks needs to be strengthened. The RDWSD has implemented several externally aided projects and is familiar with the Bank's requirements to manage social risks. However, the department does not have in-house staff to manage social risks related to labour, community health and safety, land and livelihood.
- Clauses on labour standard compliance are integrated in the contractors' contracts/bid documents, however there is no provisioning for site specific E&S management plans, nor are health, safety, and security of workers monitored at the site.
- The program has a robust system for stakeholder/beneficiary engagement, grievance redressal, and social inclusion. These mechanisms however require scaling up through resource allocations (financial and manpower) to ensure such activities meet the intended targets and contribute to improved development outcomes. As per the requirements of JJM, social audits must be carried out, which have not yet been initiated.
- The GRM of RDWSD needs to be strengthened. External monitoring, extensive public outreach and awareness, addressing complaints beyond O&M, and strengthening systems of documentation and reporting on complaints received directly- are some of the aspects to be considered. Extension of RDWSD's grievance portal – *Parihara* - to PRED will help to address any grievances related to tank rejuvenation activities.

Assessment Against Core Principles

Core Principle #1: E & S management systems

The GoI/GoK regulations and statutory provisions - environmental, forests, pollution control, CRZ, groundwater, waste management, safety and labor related acts and regulations were assessed and found to be adequate. At Program level, Departmental as well as JJM systems were found to be strong on technical aspects and are designed to deliver technically sound RWSS infrastructure, compliant with the broader applicable statutory requirements such as statutory permissions, etc. It is proposed to appoint a full-time environmental staff in RDWSD (headquarter and districts). This staff will be engaged in ensuring regulatory compliance and in streamlining procedures and practices for better on-the-ground environmental performance of RDWSD and PRED staff, consultants and contractors. There will be particular focus on construction related EHS impacts across the various infrastructure activities. In the planning, design and execution of all WSS infrastructure, the program will strive for better environmental performance.

The program operates within an adequate legal and regulatory framework to mitigate, manage and monitor social risks and impact at the PforR level. It is recommended that processes such as social screening of identified lands are embedded in the DPR preparation of SVS and in-village infrastructure works. In line with the requirements of the Jaladhare/ JJM scheme, RDWSD already has management systems pertaining to citizen engagement, grievance redressal and social inclusion. Due to the program's geographic scope and emphasis on IEC and citizen engagement, allocation of adequate human and financial resources to implement these activities at a wider scale is recommended. Further, dedicated social expert is required at the RDWSD to manage social risks related to labour, community health and safety including land management.

To improve the procedures and practices, screening processes, including monitoring and documented management systems has been recommended as a part of this ESSA's Program Action Plan. With that in place, the systems will be consistent with this core principle.

Core Principle #2: Natural habitat and cultural resources

The GoI / GoK's regulatory systems as well as JJM requirements pertaining to natural habitats, particularly forests and eco-sensitive areas were assessed and found to be adequate to manage any ensuing adverse impacts. Mandatory requirements of prior forest clearance for use/diversion of forest land and for compensatory afforestation are in place. Constructions in the proximity of cultural heritage sites such as protected monuments are also regulated, and guidelines are in place for addressing chance find situations. Further, no significant conversion or degradation of critical natural habitats or physical cultural heritage is envisaged as most activities are expected to take place in pre-existing water supply schemes or tanks. RDWSD and PRED are fully aware and competent for addressing these regulatory requirements. Hence, conformance to this Core Principle is established.

Core Principle #3: Public and worker safety

Karnataka has a comprehensive legal and regulatory framework on community and workers' health, safety and security. There are also legislations to prohibit child and forced labour, including protection against sexual harassment at the workplace. Adherence to applicable public and worker safety standards is legally binding on all contractors, as enshrined in their contract documents, signed with the RDWSD/PRED. There is scope for strengthening contract provisions by including scheme-specific or sub-project-specific ESMP requirements which, amongst other things, also dwell in detail on site related, public related and worker related safety requirements. Also, the monitoring of observance of these standards can be strengthened by introducing a formal monitoring protocol, with in-built documentation and reporting requirements. With the above in place, requirements of this Core Principle will be fully met.

Core Principle #4: Program E&S systems manage land acquisition and loss of access to natural resources in a way that avoids or minimizes displacement and assists affected people in improving, or at the minimum restoring, their livelihoods and living standards

JJM Guideline indicates that for in-village water supply work, land should be provided by the Gram Panchayat itself. Most often, land taken for SVS is either panchayat or government land, which involve

internal transfer using established government procedures, whereas existing Right of Way (RoW) are mostly used for laying of pipelines. To the extent possible, government or revenue land which is free from encumbrances will be utilized for construction of new SVS and in-village infrastructure under the program. The program would not involve any construction where acquisition of private land is required or any land for which clear title is not available with the government. Any minor land taking for siting of OHTs, etc. shall be done through donation by individuals/communities and Block office shall ascertain voluntariness and also that it does not lead to significant adverse impacts on the livelihood of the household. In case of rejuvenation of tanks, possible encroachment of informal occupants near the tanks is possible, which are mostly dealt with as per the requirements of the Karnataka Land Revenue Act, 1964, wherein sufficient time and notice is provided for evacuation. Program would not support any activities that would involve the use of forced eviction of informal occupants/land users.

Core Principle #5: Program E&S systems give due consideration to the cultural appropriateness of, and equitable access to, Program benefits, giving special attention to the rights and interests of Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities, and to the needs or concerns of vulnerable groups

As the Program area covers the entire state of Karnataka, infrastructure works will be carried out in tribal and SC dominated areas as well. There are built-in safeguards against exclusion of vulnerable groups within the program. As per the requirements of the JJM/Jaladhare, the Program will ensure that ST/SC communities are well represented (30%) in the VWSC. Moreover, the scheme mandates the need for undertaking special gram sabha, wherein all members of the community must participate to pass a resolution for certification of 'Har Ghar Jal' status once the FHTCs are installed in all households (100% coverage). The installation of household meter also provides direct evidence of equity in the delivery of rural water services, as the meter serves as proof as to whether water was delivered to marginalized households.

Core Principle #6: Avoid exacerbating social conflict, especially in fragile states, post-conflict areas, or areas subject to territorial disputes.

Not applicable. There are no conflicts or territorial disputes in the Program area.

Findings – Program Exclusion

Environment

The Bank's Program was reviewed to ensure that the activities do not include those not eligible for PforR financing. It was confirmed that:

- No conversion or degradation of critical natural habitats or cultural heritage sites;
- No air, water, or soil contamination leading to significant adverse impacts on the health or safety of individuals, communities, or eco-systems;
- No workplace conditions that expose workers to significant risks to health and personal safety;
- No adverse E&S impacts covering large geographical areas, including transboundary impacts, or global impacts such as greenhouse gas (GHG) emissions;
- No significant cumulative, induced, or indirect impacts;

Social

The Bank's Program was reviewed to ensure that the activities do not include those not eligible for PforR financing. It was confirmed that:

- No land acquisition and/or resettlement of a scale or nature that will have significant adverse impacts on affected people, or the use of forced evictions. The program would not involve any construction where private land acquisition is required or any land for which clear title is not available with the government;
- No large-scale changes in land use or access to land and/or natural resources;
- No activities that involve the use of forced or child labor;
- No marginalization of, or conflict within or among, social groups;
- No activities that would have adverse impacts on land and natural resources subject to traditional ownership or under customary use or occupation; or cause relocation of Indigenous People or have significant impact on them.

Overall, there are no potentially significant, adverse environmental and social impacts in the Program design. During the implementation, exclusion of all such activities will be ensured.

Consultations

Discussions were held with the following stakeholders: RDWSD and PRED Technical/Engineering personnel (all levels) and other Jaladhare functionaries: Implementation Support Agencies (ISA)/ Implementation Support Resource Agencies (ISRA), Parihara, DWSM, etc., including Panchayat Development Officers (PDO), Village Water and Sanitation Committees (VWSC), Gram Panchayat members, WSS beneficiaries and individual consumers (including Anganwadi and ASHA workers). The key findings of the consultation have been summarised below:

- Women consumers/Anganwadi/ASHA Workers: Household connections have reduced drudgery and also incidences of water borne diseases; complaints are made directly reported to water man & PDO; sufficient notice is provided in case of disruption of supply; some concerns related to potability were raised.
- ST/SC Consumers: Subsidies to ST/SC households in amount payable as community contribution; inclusive decision-making process, lack of clarity regarding installation of volumetric meters/payment of tariff; open drains and grey water discharged into surrounding areas; limited awareness of Parihara – GRM.
- GP and VWSC members: Participatory planning; inclusive committees with women/ST/SC representatives; limited awareness of roles and responsibilities; information related to Parihara (GRM) not widely distributed amongst community
- PRED and RDWSD field staff: Bid documents capture labour standard requirements, but no monitoring and reporting is undertaken; absence of social risks assessment/screening during preparation; limited interface with Parihara (GRM).
- ISA, ISRA: Challenging timelines as well as extensive geographical coverage for outreach activities.

From the stakeholder workshop held on December 6th 2022, the following were the main points:

- Need for replenishment of borewells, closing of contaminated borewells, sustainability of RO plants where needed, management and monitoring of drinking water assets, including training and capacity building of field staff on social and environment, health and safety aspects.
- Importance of capacity building and strengthening the participation of GP and VWSC members, particularly on FTK testing, obtaining community contribution, conducting social audits, and the O&M for social sustainability.
- Involvement of other agencies and departments, such as the Health Department staff in IEC (Information, Education, and Communication), behavioural change and training activities on benefits of drinking water and sanitation.

All of these were considered in the context of the Bank's Program design and the GoK's overall Jaladhare program.

Disclosure

The stakeholder workshop was organised on December 6th 2022 to disclose the draft ESSA. It was attended by 80 participants representing various departments (RDWSD, PRED, Health, Minor Irrigation, Forest. Etc.), district administration, PRIs, grassroots workers (Anganwadi and ASHA), civil society organisations and academia. The executive summary of the draft ESSA was translated and circulated to the participants in Kannada and English prior to the workshop. The feedback obtained during the workshop was used to further refine and finalize the ESSA. Once final, the ESSA will be disclosed on RDWSD and PRED website and also the World Bank website.

Recommendations for Institutional Strengthening

The following list of actions to be undertaken by RDWSD and PRED forms the ESSA inputs into the overall Program Action Plan:

Action Description	DLI#	Responsibility	Timing		Completion Measurement
Hire E&S staff in PMU RDWSD as per agreed institutional structure Social Specialist: One at State level Environmental Specialists: One each at State and District levels	DLI 2	RDWSD	Other	Before effectiveness	Staff contracted and joined duties.
Develop and adopt systems, procedures and tools that: • Help identify and manage E&S impacts of all activities under Bank program	DLI 2	RDWSD and PRED	Due Date	01-Jun-2023	• Revised E&S screening, mitigation planning and monitoring procedures adopted and applied across all proposed investments under Bank program.

• Facilitate effective monitoring and reporting of E&S mitigation actions taken • Enable documentation of all E&S related due-diligence actions, and • Enable periodic review of effectiveness (progress reports, audits) of the above, including tracking of extent to which vulnerable sections are able to access benefits under Jaladhare					• All E&S due-diligence actions documented and corresponding records maintained. • Social Audit manual, bi-annual social audit reports disclosed. • Mid-term and End-term Environmental Audit Reports. • Quarterly E&S compliance reports by RDWSD and PRED field staff.
Review and strengthen E&S provisions in tendering procedures, bid documents, work orders, contract agreements, etc. pertaining to works to be awarded under the Bank program	DLI 2	RDWSD, PRED	Due Date	01-Jun-2023	• Standard bid / contract documents include environmental and social provisions as specified in ESSA • Tendering and bid evaluation procedures modified as per ESSA recommendations and adopted
Enhance capacity of RDWSD and PRED staff, including PMU/District (DTSU) staff, contractors, ISA, DWSM, VWSC, GPs and other implementing entities on E&S risks management and application of revised implementation procedures.	DLI 2	RDWSD, PRED	Due Date	01-Jun-2023	Capacity Building Plan, Training modules, Training Calendar, evidence of training conducted, attendance sheets and data on number of persons trained.
Strengthen Grievance Redressal Mechanism in terms of capacity, outreach and impact	DLI 2	RDWSD/PRED	Due Date	01-Jun-2023	Manpower and additional financial resources allocated for GRM, external evaluation reports of GRM disclosed.

Recommendations for Implementation Support

The Bank's implementation support should focus on building the environmental management capacity of RDWSD and PRED through: i) hiring of environmental staff, including setting up systems and procedures for screening, monitoring, and reporting on environmental effects under the program; ii) External audit process should also be adopted to track overall performance of the program on environmental risks management and iii) awareness and competence building on environmental issues should be strengthened. On the Social side, it should focus on (a) augmenting the grievance management system; (b) adopting processes for social screening and developing plans for risks management to improve program implementation and address unanticipated risks; (c) standardising E&S monitoring and reporting procedures and (d) initiating the social audit process to track overall performance of the JJM/Jaladhare. To achieve this, it is crucial to build staff capacity through trainings and hiring specialist at the RDWSD to manage social risks.

Conclusion

Overall, the ESSA revealed that the environmental and social systems relevant to the Bank's Program are adequate. Actions listed in Program Action Plan will ensure that identified gaps are addressed and the effectiveness of performance is enhanced during implementation.

1. Background and Program Description

1.1. National Rural Water Scenario

Rural drinking water initiatives in India have been in progress since decades. The decentralization after the 73rd Amendment to the Constitution of India in 1992, placed the subject of drinking water in the 11th Schedule of the Constitution wherein its management was assigned to the Gram Panchayats. In line with the 73rd Amendment, many decentralized, demand-based, community-managed, sectoral reform programmes have been initiated. In the initial days, the initiatives entailed installation of handpumps. Later, rural water supply schemes consisted of small tanks or stand posts placed at strategic points in the village. Since the turn of the century, emphasis was gradually placed on providing piped water connections to every rural household through the National Rural Drinking Water Program (NRDWP). However, the ultimate goal of providing safe drinking water 24/7 to every rural house, however, has largely remained aspirational for India to date.

The Jal Jeevan Mission (JJM), which is the latest initiative of the Government of India. Launched in 2019, the primary highlight of this ambitious program is that every rural household has drinking water supply in adequate quantity, of prescribed quality, on regular and long-term basis and at affordable service delivery charges, leading to improvement in living standards of rural communities. The mission focuses on providing assured Functional Household Tap Connections (FHTCs) to all rural households and public institutions, viz., schools, anganwadi centres, ashramshalas (tribal residential hostels), public/ community health centres, sub-centres, wellness centres, community centres, Gram Panchayat buildings, etc., in every village of the country in a time bound manner, i.e., by 2024.

The following components are supported under JJM:

1) Development of in-village piped water supply infrastructure to provide tap water connection to every rural household;
2) Development of reliable drinking water sources and/ or augmentation of existing sources to provide long-term sustainability of water supply system;
3) Wherever necessary, bulk water transfer, treatment plants and distribution network to cater to every rural household;
4) Technological interventions for removal of contaminants where water quality is an issue;
5) Retrofitting of completed and ongoing schemes to provide tap water connection at minimum service level of 55 lpcd;
6) Grey water management;
7) Support activities, i.e., IEC, HRD, training, development of utilities, water quality laboratories, water quality testing & surveillance, R&D, knowledge centre, capacity building of communities, etc.; and
8) Any other unforeseen challenges/ issues emerging due to natural disasters/calamities which affect the goal of tap water connection to every household by 2024.

Schemes/ Sub-Missions under erstwhile National Rural Drinking Water Program (NRDWP) are now subsumed under JJM. Since the launch of the JJM in 2019, about 7,10,30,336 tap water connections have been provided till date, which account for about 44% of the targeted achievement.

1.2. Karnataka: Rural Water Scenario, E&S Issues in Brief

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 Government of India (GoI) in 2019. In order to implement the JJM, GoK launched the *Jaladhare* program, which goes beyond 2024. The objective of *Jaladhare* is to supply drinking water in adequate quantity, of prescribed quality and on a long-term sustainable basis to every rural household. The JJM investment is by any measure the largest and most ambitious investment in rural water supply in India to date, and the central and state governments have jointly pledged to allocate more than USD 44 billion to the JJM program. In Karnataka, rural access to FHTC under this program rose from 24 percent in 2019 up to 53 percent in 2022, benefiting almost three million households since the launch of the mission.

The recent National Family Health Survey (NFHS-5) also 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 violence. As per the survey, ninety-three percent of households in Karnataka have basic drinking water service, and 96 percent of households use an improved source of drinking water, of which 47 percent have water piped into their dwelling, yard, or plot. Urban households (59%) are more likely than rural households (38%) to have water piped into their dwelling, yard, or plot. Thirty-nine percent of households also use an appropriate treatment method to make drinking water potable.

While progress has been noted in terms of access to safe drinking water, source sustainability is still a challenge. Karnataka is mostly semi-arid and has hot and dry climate. Though Karnataka enjoys a substantial amount of rainfall and has a significant quantity of water resources, these may not be enough to meet the ever-increasing water requirement of the state. Karnataka suffers frequent droughts. In spite of water from the river systems and tanks being available, 67 percent of Karnataka's land marked for irrigation falls under dry tracts. The erratic behavior of rainfall and the inter-State River Water disputes aggravate the problem.

Groundwater levels have been declining steadily for several decades in most parts of the state, which is attributed to over-reliance on groundwater, especially by the irrigation sector, coupled with insufficient groundwater recharge[1]. This has directly impacted the rural water sector as water sources increasingly dry up; trends that are accelerated by climate change. A list of taluks that have been classified as overexploited is given in Annex-1.

Water quality challenges compound the problem of water supply provision in Karnataka. Prominent contaminants found in many districts of the State include fluoride, arsenic (near mining areas,

[1] http://cwp-india.org/wp-content/uploads/2018/03/Report-on-Karnataka-SWP-with-regard-to-National-Water-Policy-2012.pdf

particularly in Richur district), iron and total dissolved solids (mostly salts). Annex-1 gives an account of the water quality issues faced by different districts in Karnataka.

Further, surface water bodies in rural areas close to industrial clusters are susceptible to biological contamination. The Karnataka Pollution Control Board has identified 17 stretches of various rivers in the state which have BOD value of more than 3 mg/l. Details of 11 of these from available records are given in Annex-1.

Prevailing RDWSD Policy on Sourcing Water

Given the difficult groundwater availability and quality scenario in the state, RDWSD has started gradually moving towards a policy of relying on surface water sources like perennial rivers and reservoirs. In regions where sustainable surface water sources are available and it is techno-economically feasible to harness them to cover a wide area, the Department has adopted an approach of building large multi-village drinking water supply schemes (MVS) to provide purified and treated water in bulk to the overhead tanks of individual villages, thereby completely avoiding the groundwater availability/quality related issues. In this manner, the GoK plans to cover 37,470 habitations out of the approximately 57,400 habitations (in 28,335 villages) in Karnataka, which is about 65%. In order to achieve this, about 721 MVS are expected to be constructed in the state, of which 507 are already commissioned, 60 are under construction and 154 are in planning stage. Areas not covered by an MVS will be provided water supply as earlier, through groundwater-based schemes.

1.3. Key Features of the Program

The proposed "Karnataka Sustainable Rural Water Supply Program" aims to support the Government of Karnataka's Jaladhare (as a part of the Jal Jeevan Mission) efforts while addressing the interrelated challenges of sustaining rural water supply. The Jal Jeevan Mission will be implemented over the period of 2019-2024, however the state's Jaladhare program will go beyond this period. The proposed KSRWSP PforR program will be implemented over the period of 2023-2028. The program area encompasses whole of Karnataka, covering all 31 districts of the state. With regards to tank rejuvenation for groundwater sustainability, the scope will be limited to identified seven water-stressed districts. The Jaladhare scheme envisages provision of clean and safe drinking water to residents of majority of villages in the state of Karnataka, by creating large multi-village water supply schemes (MVS) sourcing from rivers/surface sources and capable of delivering water in bulk to multiple villages. In areas that cannot be serviced by an MVS as above, Jaladhare will judiciously tap available groundwater sources to supply water. In places where the groundwater quality does not conform to appliable norms, the traditional approach in Karnataka is to install RO plants at convenient locations within the villages and encourage people to purchase their drinking water from these plants at nominal cost. Water supplied from the house-to-house piping network is expected to be used only for washing/bathing purposes.

The Program Development Objective is to increase access to safely managed drinking water services and strengthen institutions to deliver sustainable services of drinking water to rural communities of Karnataka. The Program has three Result Areas (RAs) which will enable a transition to sustainable and

resilient service delivery systems. These are: (i) Increase access and service to safely managed rural water supply; (ii) Strengthen policies and institutions to improve sustainability of rural water services; and (iii) Enhance climate resilience, water source sustainability and convergence. 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)
- GPs submitting core sector performance M&E data through an enhanced monitoring system (Number)
- GPs with an annual revenue collection rate above 80 percent (Number)
- Tank rejuvenated in water scarce districts (Number)

Program resources will be disbursed based on the achievement of five Disbursement Linked Indicators (DLIs). These DLIs have been selected to incentivize the achievement of improvements in access, service, quality, and performance. Table 1 details the DLIs and the rationale for selection of these DLIs.

Table 1 DLIs for the Program

DLI	Rationale for Selection of DLIs
DLI 1. Number of households gained access to a FHTC-connection	Access to reliable, functioning rural water supply. This DLI will finance approx. 30 percent of the actual cost of FHTCs.
DLI 2. Strengthening institutions to ensure safe and reliable water services.	GoK requires support to operationalize the O&M Policy and develop and strengthen the service delivery institutions: → Notified and implement the O&M Policy → Advance monitoring of service and GP performance → Ensure water quality
DLI 3. Institutionalizing and sustaining GP Performance	At the GP-level, there is a need to support the O&M capacity. Core gaps include inadequate tariff collection, lack of long-term O&M budget and preventative maintenance. The GoK's focus has been on construction of new water infrastructure rather than sustaining existing schemes.
DLI 4. Centre of Excellence for Multi-Village Schemes	GoK requires dedicated and comprehensive support on contract management of MVS private contractors, state-level monitoring and operationalizing energy efficiency to reduce operational expenditures.
DLI 5: Resilience: Tank Rejuvenation	The GoK requires support to modernize its tank rejuvenation efforts with satellite imagery, drones and quality assurance to recharge the groundwater and increase water storage capacity.

1.1.1. Program Activities

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, water scheme rehabilitation), and third-party quality assurance (ii) strengthening

the operation of existing MVSs , (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, groundwater recharge through tank rejuvenation and sustainability of tank operations in different districts[2].

Specific Program investments on infrastructure relevant for this study are as follows:

- In-village water supply infrastructure creation/augmentation/expansion/upgradation (such as in-village piping networks, flow-meter installation, constructing additional OHTs/pumphouses, drilling additional borewells etc.);
- Limited civil repair/renovation works or repair/replacement of electro-mechanical equipment in selected components of existing MVS;
- Establishment of village level grey water management infrastructure;
- Design and construction of a Center for Excellence building; and
- Civil works pertaining to tank rejuvenation

The size (command area) of all tanks selected for rejuvenation under the program will be 40 ha or lesser. All work contracts issued under the project will be EPC contracts. The contracts will be monitored and managed by the respective Departments (implementing agencies) – there will be no convergence with any other program in terms of contract execution.

During discussions with the GoK , it has been agreed that the proposed PforR Program will involve only the works mentioned in the preceding paragraph. *The PforR Program will not finance establishment of any full-fledged MVS or new tank*. Works pertaining to MVS under this program will involve only small retrofit works on pre-existing MVS only, aimed at improving their sustainability and efficiency aspects[3]. All contracts issued under the Bank supported PforR operation will be Engineering, Procurement and Construction (EPC) contracts.

Further, for areas which cannot be serviced by any MVS (supplying treated water obtained from surface sources in bulk) and where the groundwater happens to be contaminated, the prevailing GoK approach of installing RO plants, from which villagers can purchase clean and pure drinking water at affordable rates for their personal consumption, will be continued. Consequently, on the same pattern, the untreated water will continue to be supplied through the piping network for meeting washing/bathing requirements of the consumers. Since this does not align completely with the JJM requirement that mandates supply of only clean, treated and potable water through the FHTCs, the RDWSD has obtained a waiver from the MoDWS, permitting relaxation this condition.

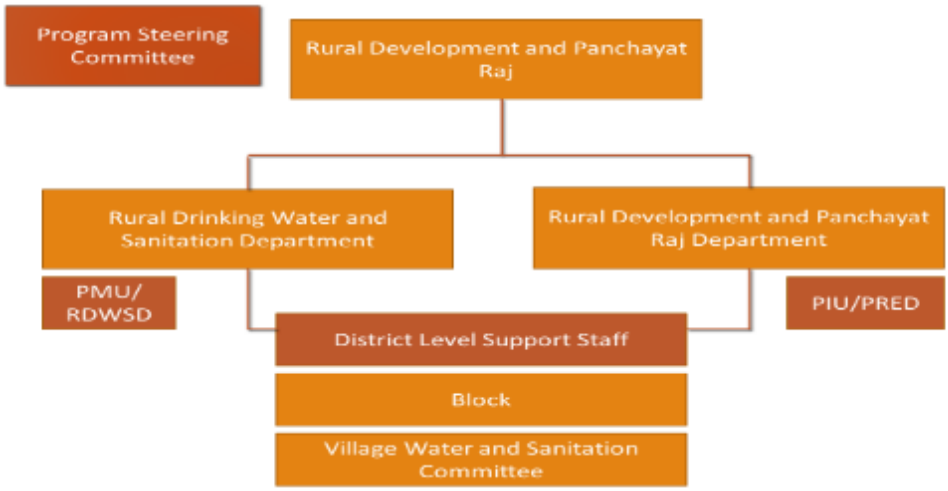
1.1.2. Institutional and Implementation Arrangements

The Program will be implemented by the Rural Drinking Water and Sanitation Department (RDWSD) who is the custodian of the state-level Jaladhare 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

[2] Bengaluru Rural, Bengaluru Urban, Bidar, Chikka Ballapura, Chitradurga, Kalaburgi, Kolar and Tumakuru.

technical and financial support to the relevant service delivery agencies. Additionally, the component of the proposed PforR Program pertaining to tank rejuvenation activities will be managed and implemented by PRED, although it will not have any fiduciary responsibilities under the Program.

Figure 2. Implementation Arrangements



1.1.3. About ESSA and related requirements

The World Bank undertakes the Environmental and Social Systems Assessment (ESSA)[4] in which the following are examined: (i) the potential E&S effects of the PforR (including direct, indirect, induced, and cumulative effects as relevant); (ii) the borrower's capacity (legal framework, regulatory authority, organizational capacity, and performance) to manage those effects; (iii) the comparison of the borrower's systems—laws, regulations, standards, procedures, and implementation performance—against the core principles and key planning elements to identify any significant differences between them that could affect Program performance; (iii) the likelihood that the proposed operation achieves its E&S objectives; and (v) recommendation of measures to address capacity for and performance on policy issues and specific operational aspects relevant to managing the Program risks (e.g. carrying out Staff training, implementing institutional capacity- building programs, developing and adopting internal operational guidelines) through a Program Action Plan.

The following are the World Bank's ESSA requirements:

I. Preliminary screening is done to ensure that activities that are "judged to be likely to have significant adverse impacts that are sensitive, diverse, or unprecedented on the environment and/or affected people are not included in the PforR design and are excluded from the Program.
II. Stakeholder engagement is an essential element of the ESSA process. Through this engagement, both internal and external stakeholders get an opportunity to meaningfully participate in the ESSA

[4] Requirements for ESSA stipulated in World Bank Policy: Program-for-Results Financing (Policy) and Bank Directive: Program for Results Financing Directive as well as comparison with the core principles found relevant in this context

process, inform the preparation of the ESSA Report, and provide meaningful inputs throughout the lifecycle of the operation. Generally, during the PforR preparation process, field-level one-to-one and focused group community consultations and a stakeholder workshop are conducted to meet the stakeholder engagement requirements.

III. Analysis: Using secondary literature and the information collected during the stakeholder engagement process, the ESSA analyses the borrower's applicable systems, considering the system both as it is defined in laws and regulations, and as it is implemented in practice. The purpose of this analysis is to determine the systems' capacity to manage program risks during preparation and throughout implementation.

IV. Grievance Mechanism (GM): The ESSA reviews the program-level grievance mechanisms and conducts an assessment of their adequacy and effectiveness. The ESSA confirms that the GMs can receive, record, resolve, and follow up on complaints or grievances received. Further, the ESSA includes any recommendations for enhancing or improving the GM.

V. Recommendations: ESSA identifies measures and actions to manage any significant gaps in the borrower's capacity to implement E&S management systems at a level commensurate with the identified risks to the Program, and consistent with the Bank's core principles and planning elements. The Bank and the borrower together agree to implement these as part of the Program.

VI. Disclosure: It is required for the draft ESSA report to be disclosed before the program appraisal so that the views of interested members of the broader public may be solicited and considered before all Program decisions are made final. Further, the final ESSA Report and recommended actions are to be completed before negotiations, and the final version is disclosed accordingly.

2. Methodology

2.1. Introduction

Preparation of the ESSA was undertaken by a team of Environmental and Social Specialists and Consultants from the World Bank. The assessment team used various approaches to review the environment and social systems that are relevant to the rural drinking water supply program The methodology included: (a) secondary literature review, (b) screening of envisaged project activities, (c) consultations – field-level and state-level; (d) analysis and synthesis of systems strengths & areas for improvement; which was followed by (e) preparation of the ESSA report.

2.2. Secondary literature review

The ESSA team reviewed the relevant secondary literature prior to and during the conduct of the ESSA. The key documents included applicable Acts, Rules, policies, Government Orders, Circulars, Gazette notifications, JJM guidelines, bid documents and studies commissioned as part of program preparation The list of secondary literature reviewed is included in the Annex 2. The desk review focused on understanding the existing policy, operational procedures, institutional capacity and implementation effectiveness relevant to the activities proposed under the Program. This also included a review of the borrower's systems for managing risks related to land procurement,

occupational health and safety (OHS) during civil works, including engaging with citizens (especially the most marginalized and excluded), and ensuring inclusiveness in the design, planning, operations, maintenance, and service delivery of drinking water post construction. Using the findings of the secondary literature, the ESSA team carried out the screening, developed checklists for conducting the consultations with community and carrying out key informant interviews

2.3. Risk screening

Environment

Based on the overall design of the project and its constituent activities, broad Environmental, Health and Safety related issues/risks that may be encountered during project implementation, were identified. The overall project design as well as its proposed activities were also assessed against the Bank's exclusion criteria for PforR to determine if any of these criteria were applicable to any aspect of the project, in which case such activities may have to be excluded from the project. Further, a detailed analysis of possible Environmental risks of each proposed project investment was undertaken to flag any significant risks that may apply. This risk analysis, read along with the compilation of various applicable National and State policies, laws, rules and regulations would feed into the borrower systems assessment that follows. The output of risk screening for this project has been presented in Chapter 5. On the whole, it has been determined that the proposed project and its activities do not pose any significant kind of risk that is irreversible or unmanageable in any manner.

Social

Using the findings of the secondary literature, the ESSA team carried out the Social risk screening. This considered the likely risks arising from social impacts, contextual risks, institutional capacity & complexity risks and political and reputational risks. In addition, specifically, issues relating to GRMs, customer relationship/satisfaction, stakeholder engagement, gender, labour were considered. The screening revealed that the Program will not have any significant adverse social impacts. The prevalent social risks related to i) the approach of using existing Right of Way to lay pipelines and minimizing construction stage impacts; ii) activities relating to tank rejuvenation in eight districts and construction of additional storage reservoirs might adversely impact peoples and communities particularly encroachments/squatters pointing to the need to have a negative list and; iii) other social risks may 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.

The minor, reversible social impacts arising from the incidental physical activities or civil works to be done as a part of this Program will be managed through the strengthened capacity and the prevailing regulatory framework. The social risks due to the context is also limited as these are within the existing, well-established administrative, functional and technical jurisdiction of state. Overall, the findings from the screening exercise indicated that the social risk was moderate

The screening also ensured that the Program does not include those components which are not eligible for financing using the PforR instrument. Based on the information available, the following were confirmed: (a) No Land acquisition and/or resettlement of a scale or nature that will have significant adverse impacts on affected people, or the use of forced evictions; (b) No Large-scale changes in land use or access to land and/or natural resources; (c) No Activities that involve the use of forced or child labour; (d) No marginalization of, or conflict within or among, social groups; or (e) No activities that would (1) have adverse impacts on land and natural resources subject to traditional ownership or under customary use or occupation; (2) cause relocation of Indigenous People or have significant impact on them.

2.4. Consultations with stakeholders

The Bank team interacted at length with the managements of RDWSD and PRED (state and field level staff), which are the two implementing agencies of the proposed PforR operation in Karnataka, to understand the systems and procedures followed by them in implementing rural water supply schemes and tank rejuvenation works in the state. Based on these interactions and material obtained from the RDWSD and PRED, the roles and responsibilities of these institutions as well as the procedures followed by these agencies were documented and studied to determine the extent to which they address environmental and social issues in such activities relating to infrastructure. In addition, meetings and discussions with representatives of key agencies (contractors, ISA, PDO, Parihara and other relevant institutions) were also held to inform this assessment.

As part of the community and stakeholder consultation process to inform the ESSA, the team visited two districts (Chamrajnagar and Belgavi[5]) and held six-seven consultations (FGDs and interviews) with elected representatives and community members/ citizens, with at least one dedicated consultation per area with women and other socially vulnerable groups. The purpose was to understand the effectiveness of community outreach approaches, social inclusion in VWSCs etc., participatory processes adopted in the project cycle, efficacy of grievance redress systems and lastly to identify areas for strengthening Specifically, the consultations were held with the following objectives:

1) Engage key stakeholders with information about the scope, timing, expected effects and benefits of the proposed Program

2) Seek inputs and feedback from stakeholders on key questions (checklists). Elicit responses on most significant issues from each stakeholder group that should be considered or addressed by the program

3) Offer an opportunity for stakeholders to suggest measures/improvement areas on key areas based on their insights and experience leading to recommended changes to the Program scope or design needed to limit social impacts/risks and improve overall performance on social aspects.

[5] These districts were selected as they represent water-stressed and tribal belt areas.

Detailed Environment and Social checklists (Annex 3) were prepared for different stakeholders. These were administered in the RDWSD head office and during the site visits to elicit verbal as well as written responses to the queries. The key personal interviews and focus group discussions were done by the E&S specialists themselves.

2.5. Consultations through the stakeholder workshop

For the stakeholder consultations a workshop was conducted under the aegis of the World Bank in collaboration with the RDWSD on 6th December 2022**.** GoK officials from the relevant departments, stakeholders from other agencies / institutions and community representatives were invited to this workshop. All the invitees to this workshop were provided with the Executive Summary *(English and Kannada)* of the draft ESSA report prior to the conduct of the workshop. The Bank team presented the brief of the Program, the ESSA methodology, the draft findings and recommendations against which feedback from the participants were sought. The structure of the workshop was such that it solicited stakeholder inputs that will enhance the Program design and the ESSA itself. Using the feedback obtained during this workshop, the draft ESSA was revised, and the stakeholder feedback was considered vis-à-vis the Program design. **Refer to Annex 4 for the list of invitees, summary of the workshop along with the photos of the event.**

2.6. ESSA report preparation

Using the data / information collected through the consultations and the secondary research, the ESSA team carried out the analysis, which is included in determining the strengths and the weaknesses of the existing regulatory systems and institutional systems that are being considered in the program and identifying gaps that need to be addressed through Program Action Plan (PAP). The ESSA report is a product of the World Bank team[6] and includes inputs from the RDWSD and PRED representatives at various levels. Also, the inputs received from consultation and the participants of the stakeholder workshop was invaluable. Activities undertaken towards preparation ESSA report was done between Sept-Nov 2022.

2.7. Disclosure of the Draft ESSA

It will be done on the website of RDWSD, PRED and on the World Bank website to get feedback from stakeholder and provide scope to address the feedback incorporate in the final ESSA. The final ESSA, after incorporating stakeholder comments, will be once again disclosed on the website of RDWSD, PRED as well as on World Bank's external website.

3. Key Issues, Benefits, Impacts and Risks

This Chapter presents the E&S benefits, risks, and impacts of the Program. All risks associated with the program are likely to emanate from the following infrastructure creation works:

6 The World Bank team responsible for this ESSA includes Neha Vyas (Senior Environmental Specialist), Charu Jain (Environmental Specialist) and Parimal Sadaphal (Consultant) on Environmental aspects, and G. Srihari (Senior Social Development Specialist) and Philarisa Sarma Nongpiur (Consultant) on social aspects.

- In-village water supply infrastructure creation/augmentation/expansion/upgradation (such as in-village piping networks, flow-meter installation, constructing additional OHTs/pumphouses, drilling additional borewells etc.);
- Limited civil repair/renovation works or repair/replacement of electro-mechanical equipment in selected components of existing MVS;
- Establishment of village level grey water management infrastructure;
- Design and construction of a Center for Excellence building; and
- Civil works pertaining to tank rejuvenation

3.1. Environmental risks and opportunities of the Program

Key Environmental Issues/Risks

The potential environmental risks associated with the proposed P4R operation, that would need to be appropriately managed and mitigated, are as below:

Key Environment related risks are as below:

1. **Project infrastructure created on statutorily protected land (forest, CRZ, Mangroves, etc.)**:, Project infrastructure creation, albeit small in size, could take place on ecologically, culturally or socially sensitive locations.
2. **Impact of project activities on local topography or other environmental factors**: Certain project activities or allied tasks such as excavation, debris disposal, etc. could impact nearby / adjacent habitations / land or pre-existing infrastructure, prevailing travel routes / pathways, animal / wildlife / grazing corridors, cause obstruction to drainage flows, impact community land use (cultural activities, sports, etc.), impact on ambient air quality, etc.
3. **Groundwater stress issues**: Karnataka has considerable groundwater stress issues[7] characterized by low borewell yield, drying up of borewells, low rate of recharge and compounded by low rainfall.
4. **Groundwater quality (contamination) issues**: The project activities, on account of their inherent nature, will not cause any groundwater contamination. However, almost every district of Karnataka has some or the other water quality issue. This includes salinity, iron, fluoride, nitrite and even arsenic in a few places. Such issues, wherever prevalent, would need to be addressed appropriately through installation of appropriate treatment units and adoption of source protection measures – including for surface water sources, wherever feasible.
5. **Improper disposal of reject water from RO/treatment units or Grey water collection and disposal units:** Proper, safe and sustainable disposal of reject water from treatment/RO units,

[7] It is reported that 1,900 villages in about 30 districts in Karnataka are facing drought-like conditions. State government has declared 3,122 regions to be severely affected by drinking water scarcity. Groundwater table has also depleted to considerably low levels. According to the records from the Department of Rural Development and Panchayat Raj, 138 of the 176 taluks in the state have very low groundwater levels. The worst affected are Bagepalli, Chikkaballapura, Sidlaghatta, Bangarpet and Kolar. The groundwater level is below 60 meters in Kolar and Chikkaballapur district.

wherever they are installed, could cause unnecessary waterlogging, bad odor and vector menace. Hence proper disposal should be ensured.

6. **Impact on structures of historical/physical/cultural importance**: Karnataka has several historically and culturally important sites spread all over the state. If construction activities happen to be located near such sites or tend to adversely impact any prevailing cultural practices of the local population, it would will be a risk that would need to be considered and addressed appropriately.
7. **Inadequate emphasis on borewell recharge measures**: While the Department intends to suitably address this issue by covering most parts if the state through MVS, it would be useful to take-up appropriate borewell recharge measures in schemes which are not serviced by any MVS through convergence with Groundwater Department, Soil and Water Conservation Department and any other relevant wing of the State Government.
8. **Inadequate Tank Catchment Protection**: Inadequate natural catchment protection measures and/or maintenance of network of natural recharge channels for freshly constructed or rejuvenated tanks
9. **Construction waste management**: During construction and O&M phases, construction debris and other wastes generated such as equipment packaging, food waste, metal waste, unused wires, used filter media from water treatment units, etc. would need to be disposed properly.
10. **Impact of construction activity on surrounding communities and habitations**: Any construction activity can potentially cause inconvenience to nearby communities, institutions, healthcare facilities and commuters such as blocked/dug-up pathways, noise, dust, inappropriately dumped construction material/components, lax site safety, etc. It is important to make proper site layout plans and involve the community in preparing these plans, followed by undertaking appropriate IEC activities to instill awareness in this regard.

Health related risks could originate from the following:

1. **Worker Health**: Workers deployed at project infrastructure creation sites may face a variety of health issues during the construction phase (RWSS as well as Tanks), and from COVID-19
2. **Inadequate designing/works execution**: Improper designing of certain sensitive project components such as Center of Excellence building, OHTs, Grey water disposal systems, waste weir, feeder channel of tanks, etc., could lead to commensurate Environmental impacts on the community due to impacts such as waterlogging, bad odor, inadequate ventilation, vector menace, etc. Similarly, improper management of construction activities such as storage of material, debris/waste disposal, site and worker safety aspects, etc. could also have EHS implications.
3. **Inadequate O&M practices**: A number of health risks arise on account of deficient O&M practices, such as no chlorination, no bore-well protection (fencing, levelling), no scheme site layout planning, inadequate tank bund maintenance, etc., which could lead to community health impacts

Safety risks could stem from:

1. Inadequate incorporation of safety features in sub-projects such as water supply schemes, Center of Excellence building, grey water disposal system or tank rejuvenation design/plan
2. Inadequate observance of safety norms during construction and O&M phases, including inadequate provision of worker safety gear

The nature of risks emerging from the above analysis indicate that the proposed project activities may not result in any substantial, unmanageable or irreversible environmental impacts – most of the above can be suitably addressed through appropriate mitigation or compensatory measures.

1.1.4. Environmental Risk Analysis of Proposed Investments

This section analyzes the specific risks associated with specific envisaged project activities. Risks identified in relation to various envisioned project activities are compiled in Table-5 below:

Table-2: Risk analysis of proposed investments

Proposed Investments/ Activity	Benefit	Impact	Justification for rating (where applicable)	Risk Rating
Delivery of 2 million metered household connections through new & rehabilitated SVS	• Improved community health	• Issues pertaining to low borewell discharge, drying up of borewells in summer • Contaminated groundwater (TDS, salinity, arsenic, iron, flouride, etc.) • Impacts associated with locations close to or within forests / protected areas / protected monuments, etc. • Improper RWSS design or plan • Construction related impacts (dust, noise, debris / waste generation, worker safety, etc.) • Disturbance to nearby residents due to excavation, trenching, route closure /diversion, etc.	As most of the proposed household connections are likely to supply water from an MVS, it will reduce dependence on groundwater thereby alleviating the risks of limited availability and quality	Moderate
Increasing micro-biological testing capacity and application of chlorine to treat water in single village schemes and "drink from the tap" behavioral	Will enhance Environmental performance of the Project	Impacts due to inadequate or excessive chlorination	The project will ensure appropriate training of relevant staff to maintain optimal chlorination levels	Low

Proposed Investments/ Activity	Benefit	Impact	Justification for rating (where applicable)	Risk Rating
communication change campaign				
Incentivize tank rejuvenation and sustainable management of small tanks less than 40 hectares in size in eight (8) water scarce districts in the state	Improved ground water levels and reduction in number of borewells drying up, particularly in summer	• Excavation/construction related impacts (dust, noise, debris disposal / waste generation, worker safety, etc.) • Obstruction to natural drainage pathways • Disturbance to nearby residents due to excavation, route closure /diversion, etc. • Changes / developments in catchment areas leading to decrease in recharge flows to the tank • Inadequate or inexhaustive tank design or construction leading to commensurate Environmental impacts	These impacts can be suitably mitigated by adopting optimal construction practices	Moderate
Aggregate Risk Rating				Moderate

It can be seen from the above table that the most prominent risks in respect of a drinking water supply project in Karnataka are those having to do with groundwater stress and groundwater quality. This is because of the prevailing groundwater depth and quality situations in the state. The other risks are mostly location and construction activity related, which are manageable through proven mitigation strategies. Therefore, the borrower systems assessment should focus on assessing specific provisions to suitably address the above two issues and the capacity of the Department personnel to successfully apply the same.

2.1. Social risks and opportunities of the Program

2.1.1. Key Social Issues/Risks

Assessment of the prevalent social risks as per four criteria: (a) the likely E&S effects; (b) the E&S context, including any risks to sustainability; (c) institutional complexity and borrower implementation capacity and track record; and (d) reputational and political risk is presented below.

1. Learning from previous projects implemented in the state indicate that lack of ownership and inadequate capacity of GP and Village Water and Sanitation Committee (VWSCs), responsible for operations, maintenance, and service delivery of drinking water post construction, has led to poor operational performance of rural water supply.

2. Given that discharge of greywater is expected to increase from households under *Jaladhare* with each household receiving 55 liters per capita per day (lpcd) of water, greywater from households discharged into the surroundings will pose public health risks.
3. Possible eviction of informal occupants near existing tanks for bund/ waste weir and outlet repairs during rejuvenation of tanks with less than 40 Ha of command area.
4. Minor land related impacts, in cases where land is required for development of new single village schemes, other in-village infrastructures (such as distribution systems, additional storage reservoirs, water scheme rehabilitation). Given the approach of using existing Right of Way to lay pipelines and Government/ GP land for SVS (OHTs), land related impacts will be low to moderate.
5. Construction-induced temporary impacts (restriction to access, water supply, etc.) to consumers during laying of pipelines, FHTCs and repair of overhead tanks as well as access and safety issues in case road restoration works are not carried out
6. Non- compliance to labour, occupational health and safety regulations by contractors for water supply and tank rejuvenation works.
7. Possible inequity in service levels to low-income and marginalized communities (women headed households, SC/ST and OBC) due to poor last mile connectivity. However, installation of household meter would provide direct evidence of equity in the delivery of rural water services, as the meter serves as proof as to whether water was delivered to marginalized households.
8. Inadequate resources and geographical distribution of community outreach programs by ISA/ISRA resulting in limited awareness and participation of VWSCs and communities in the planning, decision-making and monitoring process. However, the reputational and political risk related to these aspects is low, as the JJM/Jaladhare program focuses on strengthening citizen feedback, grievance redressal mechanism and relies on consultative processes during the preparation and implementation phase.

2.1.2. Potential social benefits and opportunities

There are many potential social benefits and opportunities of the Program. Some of the opportunities include the following:

1. Increase in the number of households having access to sustainable safely managed rural drinking water services.
2. Improved drinking water supply connections are likely to result in reduced water borne diseases and improved community health.
3. Reduced time and effort for 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.
4. Involvement of implementation support agencies (ISA)/ implementation support resource agency (ISRA) in building capacity of local governance institutions and VWSC to implement the program will result in strengthened rural institutions and resilient communities, in terms of ownership, and managing drinking water sources and services optimally in an inclusive and transparent manner.

5. Sustained interaction among various stakeholders (RWDSD and PRED staff, PDO, ISA/ISRA, contractors, VWSC, GP members and communities) through preparation and approval of village action plans, participatory rural appraisal, capacity building, work execution, etc. — will foster healthy relationship amongst all and upheld community interest.
6. Effective and timely redressal of grievances, as the RDWSD already has a functional grievance redressal mechanism (Parihara) which will be strengthened further under the Program as well as extended to tank rejuvenation activities.
7. Positive behavioral changes among stakeholders with respect to judicious use of water, safe handling and storage, ownership of water supply system, etc.
8. It will enhance 'gender mainstreaming' by creating equal opportunity for the local unemployed women who would be employed and trained in technical jobs such as plumbers and drivers, thus improving their financial condition and economically empowering them.

With the ongoing implementation of Jal Jeevan Mission/Jaladhare program in Karnataka, there seems to be limited social risks to the sustainability of the program. Moreover, NFHS-5 data reveals that Karnataka has seen significant improvement in terms of access to water supply, improved sanitation facilities and healthcare services for women and children in recent years, which reinforces social commitment to the program goal.

2.1.3. Social Risk Analysis of Proposed Investments

The table summarizes the prevalent social risks under each results area of the program:

Proposed Investments/ Activity	**Benefit**	**Impact**	**Justification for rating (where applicable)**	**Risk Rating**
Delivery of 2 million metered household connections through new & rehabilitated SVS	Increase in number of households having access to safely managed rural drinking water services.	Minor land related impacts on both legal landowners, and informal occupants Construction related impacts- OHS and Community health and safety Temporary restriction on access due to laying of pipelines Inequity in service levels to marginalized communities due to poor last mile connectivity.	Use of existing RoW for laying of pipelines, government/ GP land for in-village infrastructure. Installation of household meter will serve as evidence as to whether water was delivered to marginalized households.	Moderate

Proposed Investments/ Activity	Benefit	Impact	Justification for rating (where applicable)	Risk Rating
Sustainability efforts for new infrastructure by supporting community mobilization & behavior change	Positive behavioral changes among stakeholders with respect to judicious use of water, safe handling and storage, ownership of water supply system, etc.	Possible exclusion of vulnerable groups and those residing in remote areas from IEC activities	Existing capacity and ongoing BCC and community mobilization activities undertaken by the RDWSD	Low
Notification & institutionalization of O&M policy	Increased capacity of GPs and VWSCs towards delivering and maintaining service levels and source sustainability	Tariff setting which may impact economically weaker sections	Draft Policy disclosed and feedback from the public has been sought.	Moderate
Develop & institutionalize a set of performance criteria at GP, district and state levels	Improvement on E&S management, monitoring and reporting	Weak capacity of GP/ VWSCs in participatory planning, social accountability, and monitoring	ISA and ISRA empanelled to enhance communication, social mobilization, and strengthen social audit systems.	Low
Incentivize tank rejuvenation and sustainable management of small tanks less than 40 hectares in size 7-8 water scarce districts in the state	Sufficient water availability for consumption	Possible encroachments, resulting in eviction of informal settlers/ users of land Non-compliance of land standards, particularly affecting the NREGA workers	No designated staff and limited capacity to mitigate these social risks.	Moderate
Aggregate Risk Rating				Moderate

Based on the above analysis, the overall Environmental and Social Risk of the Program can be considered as 'Moderate'.

3. Legal and Policy Framework for the Program

This Chapter examines the applicable National and State policies and regulations (referred hereinafter as "framework") on environment and social that are relevant to the activities to achieve the key result areas under the program. There is no particular framework relevant only to the WSS sector and is a general framework that is applicable to all sectors including WSS. There is a framework at the national and state level that are both applicable to the Program.

3.1. Environment

The section presents various national and state laws and provisions relating to Environment, Health and Safety aspects and their relevance.

3.1.1. National Framework

This section discusses the National level policies and regulations that would be applicable to this project.

Name of law/policy	Relevant provisions of the Act/ Policy	Relevance for Environmental Management
National Water Policy 2012	Advocates: • Integrated management of water quality and quantity consistent with broader environmental management approaches; • Improved water supply and sewerage facilities in rural areas; • Piped surface water to rural areas with endemic groundwater quality problems; • Due regard to environmental hazards of sludge disposal for treatment systems; • Devolution of necessary authority to the lower tiers of government to deal with the local water situation • Framing a National Legal Framework for water.	• Will apply to project as it deals with piped water supply
Environment (Protection) --Act, 1986 (as amended in 1991) and Environment (Protection) Rules, 1986	Lays down rules and regulations for • Prevention, control and abatement of environmental pollution • Permissible limits for emissions or discharge of environmental pollutants (including noise) • Procedures for safeguarding Environment, Health, and Safety	• Will apply particularly to construction as well as O&M aspects of the water supply schemes implemented under this project • Will also apply to tanks and reservoirs rejuvenated under this project
Water (Prevention and Control of Pollution) Act, 1974 (as amended in 1988) & Water (Prevention and Control of Pollution) Rules, 1975 (as amended in 2011)	Mandates: • Prevention and control of water pollution • Maintaining or restoring of wholesomeness of water • Monitoring by respective State Water Boards • Contractors to obtain Consent to Establish and Consent to Operate for all civil works • Prohibition of dumping of construction waste/debris into water bodies and streams	• Will apply to quality of the water distributed by the water supply schemes established under the project
Ground Water Legislation by Central Ground Water Authority (CGWA)	• Has been constituted under Section 3 (3) of the "Environment (Protection) Act, 1986" for the purpose of regulation and control of ground water development and management in the Country • Defines critical/overexploited zones where extraction of groundwater is regulated (requires prior permission).	• Will apply to all borewells or tubewells constructed under the project

Name of law/policy	Relevant provisions of the Act/ Policy	Relevance for Environmental Management
	• Empowers the Central Groundwater Authority as the regulator, which lays out guidelines/criteria for optimal ground water extraction	
Indian Forest Act 1927, Forest Conservation Act 1980 and Forest Rights Act 2006	• Protecting the forests, preventing deforestation • Preventing loss of biodiversity • Preventing conversion of forests • Prohibits State Govt. from issuing any orders on forest land • Prohibits felling of trees with clearance of Forest Department • Requires administrative approval from the Forest Department for clearing or converting designated forest land. • For all civil works permitted on Forest land, compensatory afforestation and permission for tree • felling is compulsory	• Will apply if any proposed project infrastructure sites (borewells, pipelines, WTPs, OHTs, Tanks) situated near to or inside designated forest land
Wildlife (Protection) Act 1972	• Lists out endangered species and other important faunal groups that need to be protected. • Mandates permissions from competent authorities for working inside or diversion of national parks and sanctuaries	Will apply if any proposed project infrastructure sites (borewells, pipelines, WTPs, OHTs, Tanks) are likely to adversely affect any endangered species or is located inside statutorily protected areas.
Guidelines for declaration of Eco-sensitive Zones around National Parks and Wildlife Sanctuaries	Permitted / regulated activities in Eco-Sensitive Zones[8] (ESZs).	Will apply to any proposed project infrastructure sites (borewells, pipelines, WTPs, OHTs, Tanks) that may be located near to or inside eco-sensitive zones
CRZ Notification 2011 along with amendments issued in 2019 and 2020	Lays down guidelines for permitted / regulated activities in Coastal Regulatory Zones (CRZs)	Applicable to any proposed project infrastructure sites (borewells, pipelines, WTPs, OHTs, Tanks) located within a coastal regulation zone
Central Electricity Authority Regulations 2010 read with the Electricity Act (2003)	Amongst other things, these regulations define relevant electrical safety standards and measures to be complied with respect to design, construction and operation of electrical systems with total connected load 250 kW or more in a work place, factory or residential buildings	This act will apply to any electrical equipment purchased and installed under the project
The Ancient Monuments and Archaeological Sites and Remains Act (AMASR), 1958	• Protects ancient and historical monuments and sites • All activities in protected or regulated areas (as defined separately for each monument) require prior permission from competent authority • State level regulations for state protected sites may also exist and should also be complied with	• Will be applicable if any protected monument(s) or sites of physical or cultural importance to the local community is/are likely to be affected by the location of proposed project

[8] Eco-sensitive Zones or ESZs could be areas specifically notified as ESZs or buffer zones around protected areas, such as Sanctuaries, National Parks, Marine Reserves, Community and Conservation Reserves

Name of law/policy	Relevant provisions of the Act/ Policy	Relevance for Environmental Management
		infrastructure sites (borewells, pipelines, WTPs, OHTs, Tanks) nearby and by the corresponding construction activity
Air (Prevention and Control of Pollution) Act 1981	This Act provides for the prevention, control and abatement of air pollution. It is to control emissions of any air pollutant into the atmosphere when it exceeds the standards set under the Act and associated rules	This act will be applicable particularly during construction activity in respect of aspects such as dust control, emissions from construction machinery, generators, etc.
Noise Pollution (Regulation and Control) Rules 2000	• Actual noise levels should not exceed the ambient noise standards by 10dB(A) or more. • Complaints can be made if inded noise levels exceed prescribed standards. • Designated authority is authorized to take action against the violators in accordance with the provisions of these rules or other law in force.	Will apply to all excavation, civil construction, tank rejuvenation and pipe laying activities taken up under the project
Construction and Demolition Waste Management Rules 2016	• Mandates separate management of construction and demolition waste and its deposition with local authorities • Littering not allowed and waste to be stored on premises till disposal	Will apply to all civil construction, tank rejuvenation and pipe laying activities taken up under the project
Solid Waste Management Rules 2016; Municipal Solid Waste (Management & Handling) Rules, 2000	These rules mandate source segregation of waste in order to facilitate recovery, reuse and recycle	Will apply to all solid waste generated by workers engaged in civil construction, tank rejuvenation and pipe laying activities under the project
Plastic Waste Management Rules 2016	Ensure segregation, collection, storage, transportation, processing and disposal of plastic waste in a manner that there is no damage is caused to the environment during this process	Will apply to plastic wastes generated during civil construction, equipment installation and pipe-laying activities taken up under the project
The E-waste Management (Management & Handling) Rules 2011	Defines rules for responsible collection, segregation, storage, transportation, processing and disposal of E-wastes	Will apply to all electronic equipment and components procured under the project
Relevant standards from the Public Safety Standards of India	These safety standards govern all civil construction activities in India	Will apply to area around the installed boiler
The Building and other Construction Workers (Regulation of employment and	• Stipulates work hours, rest periods and days, payment of overtime, provision of basic amenities such as drinking water, toilets, accommodation, first aid and health and safety	Will apply to all workers engaged in project related construction activities

Name of law/policy	Relevant provisions of the Act/ Policy	Relevance for Environmental Management
conditions of service) Act 1996 and Rules 1988	• Applicable to all workers between of 18 and 60 employed for 90 days or more in the preceding 12 months	
The Occupational Safety, Health and Working Conditions Code, 2020	Defines employment conditions, facilities to be provided to industrial/construction workers, OHS provisions, documentation requirements and powers of competent authorities for inspection and penalization in case of default	Will apply to all workers engaged in project related construction activities

3.1.2. State Framework

This section discusses the State level policies and regulations that would be applicable to this project.

Name of law/policy	Relevant provisions of the Act/ Policy	Relevance for Environmental Management
Karnataka State Water Policy 2002; latest revision 2022	• Aims to provide water @ 55 lpcd to rural and @ 70 lpcd to urban areas • Also aims to provide water for irrigation and harness hydropower • Envisages a host of measures such as preservation and recharge of groundwater, coastal management, catchment area treatment, restructuring of Water Resources Department, etc. amongst many • The revised policy shifts focus from water supply infrastructure creation to managing resources within available budget • Also promotes groundwater management	Will apply to Project interventions
Karnataka Ground Water (Regulation and Control of Development and Management) Act, 2011	• Provides for regulation of groundwater extraction. • Prescribes procedures for notification of areas where groundwater development needs to be regulated • Mandates special permits from competent authority for groundwater extraction in such notified areas • Stipulates procedures for registration of users, denotification, registration of drilling agencies, etc. • Mandates groundwater recharge • Stresses upon efforts for identifying and rejuvenating groundwater recharge zones, rejuvenation of village tanks, community-based groundwater recharge, rain water harvesting and other watershed development measures • Proposes incentives/concessions to small and medium enterprises for rainwater harvesting, wastewater recycling and zero discharge processes.	• Will apply to all schemes where the water source is a borewell or a tube-well • In notified areas, borewells can be drilled only after obtaining due permission from competent authority • Tank rejuvenation component of the project is in line with this act

Name of law/policy	Relevant provisions of the Act/ Policy	Relevance for Environmental Management
Karnataka Ground Water (Regulation and Control of Development and Management) Rules, 2012	• Define procedures for notification or denotification of areas for regulated groundwater access • Make registration of users and drilling agencies in notified areas compulsory • Define criteria for limiting use of groundwater for commercial purposes	1. Drilling of borewells in notified areas would have to be undertaken only by registered drillers
The Karnataka Groundwater (Regulation for Protection of Sources of Drinking Water) Act, 1999	• Mandates: • Permission from competent authority for drilling borewells • Provides for declaring water scarcity areas and over-exploited watersheds • Prohibition of extraction of water from certain borewells under water scarcity conditions • Ordering of borewell closure under certain conditions • Empowerment of officials to visit any borewell for obtaining information	• In notified areas, borewells can be drilled only after obtaining due permission from competent authority • Department will cooperate with officials from competent authority and provide them with all required information in respect of borewells constructed under this project
The Karnataka Forest Act, 1963	• This is a very comprehensive legislation that covers all aspects of forests in the state, including district and local forests. It: • Provides guidance on notifying forest lands • Defines roles of Government, Local bodies and Community vis-à-vis Forest protection • Defines permissible and non-permissible activities • Regulates mining and extraction of forest produce • Empowers Forest Department Officials to take appropriate action to prevent or stop illegal activities • Stipulates penalties for contravention	Permission from Competent Authority will have to be sought for any project activities in any kind of forests defined in this Act
Karnataka Forest Rules, 1969	These rules are based on the Karnataka Forest Act, 1963 and provide detailed guidance on aspects such as constitution of forests, management of forests (including private forests), removal/felling of trees in forests, preventing/managing forest fires, timber extraction, cattle movement, etc.	Any infrastructure creation activities on forest land will have to comply with these rules
The Karnataka Preservation of Trees Act 1976	• Moots establishment of Karnataka Tree Authority • Provides guidance on tree felling from obtaining permission to disposing tree waste and associated penalties	Relevant permissions and compliance to rules are mandatory for any activity requiring felling of trees in the project
Karnataka State Policy on Integrated Waste Management	• Envisions a solid waste management regime in the state that is effective and sustainable • Sets the backdrop for formulation of Solid Waste Management Rules, roles of local bodies, and tasks to be undertaken	All waste management activities in the project should be in alignment with this policy

Name of law/policy	Relevant provisions of the Act/ Policy	Relevance for Environmental Management
The Karnataka Panchayat Raj (Management of Solid Waste) Model Bye-laws, 2020	• Moots establishment of Village Water and Sanitation Committees and prescribes procedures for their functioning • Describes manner in which solid wastes are to be segregated, collected, transported and disposed safely	Will apply to solid wastes generated as a consequence of the number of workers deployed at the project sites
Karnataka Ancient and Historical Monuments and Archaeological Sites and Remains Act, 1961	• Gives Government the power to declare any monument as a protected monument • Defines procedures and modalities for protection of the monuments and penalties for non-compliance • Restricts access to protected monuments	Will apply to any project situation where excavation, construction or any other development activity is to take place within the protected area or buffer zone of a protected monument
Karnataka Ancient and Historical Monuments and Archaeological Sites and Remains Rules, 1966	• Amongst other things, these rules mandate that prior permission should be applied for at least 3 months before planned start date of any construction activity in a protected monument area. • No construction/development activity should start unless permission is granted by Competent Authority	Will apply to any project situation where excavation, construction or any other development activity is to take place within the protected area or buffer zone of a protected monument
Karnataka Act No. 50 Of 2020: Lakkundi Heritage Area Development Authority Act, 2020	Provides for protecting of ancient temple ruins in Lakkundi area of Gadag district	Will apply to any schemes or pipeline alignments located near or passing through Lakkundi area of Gadag district.

1.1. Social Legal and Policy Framework

This section discusses both national and state laws and policies covering relevant aspects such as social inclusion, citizen engagement, gender, welfare of workers and land management applicable to all including the WSS sector. These have been explained below:

1.1.1. National Framework

This section discusses the National level policies and regulations that would be applicable to this project.

Name of law/policy	Relevant provisions of the Act/ Policy	Relevance for Social Management
National Water Policy 2012	The policy emphasizes on the need to remove disparity between stipulations for water supply in urban and rural areas. Water supply should preferably be from surface water in conjunction with groundwater and rainwater. Where alternate supplies are	Relevant as it fully endorses the Program

Name of law/policy	Relevant provisions of the Act/ Policy	Relevance for Social Management
	available, a source with better reliability and quality needs to be assigned to domestic water supply.	
A Strategic Plan for 2011 to 2022	The Goal of the Strategic Plan is to ensure that every rural person has enough safe water for drinking, cooking and other domestic needs as well as livestock throughout the year including during natural disasters and, by 2022, every rural person in the country will have access to 70 lpcd within their household premises or at a horizontal or vertical distance of not more than 50 meters from their household without barriers of social or financial discrimination. Individual States can adopt higher quantity norms, such as 100 lpcd.	Relevant as it fully endorses the Program
Labour Welfare and Working Conditions		
Minimum Wages Act, 1948	This Act ensures minimum wages that must be paid to skilled and unskilled labours. The employer shall pay to every employee engaged in scheduled employment under him, wages at the rate not less than the minimum wages fixed by such notification for that class of employee without any deductions except authorized.	Applicable for hiring construction labour.
Child Labour (Prohibition and Regulation) Act 1986 and Rules 1988	This act prohibits the engagement of children below 14 and 15 years in certain types of occupations and regulates the condition of work of children in other occupations. No child shall be employed or permitted to work in any of the occupations set forth in Part A of the schedule, processes set forth in Part B of the schedule which includes building and construction industry.	Applicable for hiring construction labour.
Bonded Labor System (Abolition) Act, 1976	This Act deems bonded labor to be illegal. It contains penal provisions for parties engaging in this practice and provides for the abolition of bonded labor system.	Applicable for hiring construction labour.
The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act and the Cess Act	All the establishments who carry on any building or other construction work and employs 10 or more workers are covered under this Act; the employer of the establishment is required to provide safety measures at the building or construction work and other welfare measures, such as canteens, first-aid facilities, ambulance, housing accommodation for Workers near the workplace, etc	Applicable for hiring construction labour.
Inter-State Migrant Workmen's (Regulation of Employment and Conditions of Service) Act	The inter-state migrant workers, in an establishment to which this Act becomes applicable, are required to be provided certain facilities such as housing, medical aid, travelling expenses from home to the establishment and back, etc	Applicable for hiring construction labour.

Name of law/policy	Relevant provisions of the Act/ Policy	Relevance for Social Management
Equal Remuneration Act	The Act provides for payment of equal wages for work of equal nature to Male and Female workers and not for making discrimination against Female employees	Applicable for hiring construction labour.
Payment of Wages Act	It lays down as to by what date the wages are to be paid, when it will be paid and what deductions can be made from the wages of the workers	Applicable for hiring construction labour.
Employees' Compensation Act	The Act provides for compensation in case of injury by accident arising out of and during the course of employment	Applicable for hiring construction labour.
Land related Impact		
Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement (RFCTLARR) Act, 2013	Aims to ensure, a humane, participative, informed and transparent process for land acquisition with least disturbance to the owners of the land and other affected families and provide just and fair compensation to the affected families whose land has been acquired or proposed to be acquired or those that are affected by such acquisition and make adequate provisions for their rehabilitation and resettlement and for ensuring that the cumulative outcome of compulsory acquisition should be that affected persons become partners in development leading to an improvement in their post-acquisition social and economic status.	Applicable in case land is needed for development of infrastructure.
Indigenous and Vulnerable Groups		
National Policy on Tribal Development, 1999	The policy seeks to bring scheduled tribes into the mainstream of society through a multi-pronged approach for their all-round development without disturbing their distinct culture development. It lists out measures to be taken in respect of formal education, traditional wisdom, displacement and resettlement, forest villages, shifting cultivation, land alienation, intellectual property rights, tribal languages, primitive tribal groups, scheduled tribes and schedule areas, administration, research, participatory approach and assimilation.	Applicable in cases of development in tribal belts such as Chitradurga and Davangere.
The Scheduled Castes and the Scheduled Tribes (Prevention of Atrocities) Act, 1989 and Rules, 1995	Safeguards Scheduled Castes and Scheduled Tribes against wrongful occupation or cultivation of any land or premises or residence or enjoyment of rights and services accessed/owned/allotted/notified for them.	Relevant to the overall Program to ensure that SC and ST are not harmed or negatively impacted.
The Rights of Persons with Disabilities (PwD) Act, 2016	The Act requires all establishments to frame and publish an Equal Opportunities Policy. Further, every Government establishment shall reserve, not less than four % of the total number of vacancies in the cadre strengthening each group of posts for persons with benchmark disabilities.	Relevant to the Program to ensure inclusion and participation of PwD
Sexual Harassment of Women at Workplace Prevention, Prohibition, and	An Act to provide protection against sexual harassment of women at workplace and for the prevention and redressal of complaints of sexual harassment and for matters connected therewith or incidental thereto.	Relevant to the Program to ensure safety and security of women at the workplace.

Name of law/policy	Relevant provisions of the Act/ Policy	Relevance for Social Management
Redressal Act 2013		
Transparency and Accountability		
Right to Information Act, 2005	Provides a practical regime of right to information for citizens to secure access to information under the control of Public Authorities. The act sets out (a) obligations of public authorities with respect to provision of information; (b) requires designating of a Public Information Officer; (c) process for any citizen to obtain information/disposal of request, etc. (d) provides for institutions such as Central Information Commission/State Information Commission	Relevant to the program to ensure transparency and accountability
Citizen Charter for Ministry of Jal Shakti 2021-22	Provides the vision and mission statement of the Jal Shakti Ministry, along with objectives of the JJM and information pertaining to the operational guidelines, dashboard, grievance mechanism, among others.	Relevant to the program to ensure transparency and accountability

* India has also ratified six out of the eight core/fundamental International Labour Organisation (ILO) Conventions, namely Forced Labour Convention, 1930 (No. 29), Abolition of Forced Labour Convention, 1957 (No. 105), Equal Remuneration Convention, 1951 (No. 100), Discrimination (Employment and Occupation) Convention, 1958 (No. 111), Minimum Age Convention, 1973 (No. 138) and Convention concerning the Prohibition and Immediate Action for the Elimination of the Worst Forms of Child Labour, 1999 (No. 182).

1.1.2. State Framework

This section discusses the State level policies and regulations that would be applicable to this project.

Name of law/policy	Relevant provisions of the Act/ Policy	Relevance for Social Management
Sectoral		
Karnataka Gram Swaraj and Panchayat Raj Act, 1993	Water and Sanitation are the primary responsibilities of the GP in rural areas.	Relevant to the Program, as GPs are an integral part of the program.
Karnataka State Rural Sanitation Strategy	The strategy focusses on solid and liquid waste management, with a focus on financial resource planning, capacity building, IEC, and behavioral change communication, monitoring and evaluation criteria among others.	Relevant for grey water management supported under the program.
Land related Impacts		
Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation	The central *Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 (RFCTLARR)* has recently been amended, wherein for certain infrastructure projects such as water supply, social impact assessment prior to land acquisition will be exempted. To expedite the process of land acquisition, the Right to Fair	Applicable in case taking of private land is required.

Name of law/policy	Relevant provisions of the Act/ Policy	Relevance for Social Management
and Resettlement (Karnataka Amendment) Act, 2019.	Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement (Karnataka Amendment) Act, 2019 enables the Deputy Commissioner at the district to pass an award for acquiring any land for public purpose without making further enquiries. Although it emphasizes that the State Government enters into an agreement of *voluntary* land acquisition with the willing landowner. The terms and conditions pertaining to payment of compensation, rehabilitation and resettlement to acquire the land remains as per the central Act.	
The Right to Fair Compensation and Transparency in Land Acquisition and Rehabilitation and Resettlement (Karnataka) Rules, 2015	State government is conferred with powers under Section 109 of the central RFCTLARR, 2013 to make rules on LA, R&R.	Applicable in case taking of private land is required.
Government Order no: RD 54 LAQ 2014, Bangalore, Date: 31-05-2016	As per G.O, purchase of private land up to 100 acres can be directly from the landowners on the request of Department/ beneficiary organizations for government projects including multi-village drinking water schemes.	Applicable in case taking of private land is required.
The Karnataka Industrial Areas Development Act, 1966, Acquisition and Disposal of Land	Any land is acquired by the Karnataka State Government under this Act, the State Government shall pay for such acquisition compensation in accordance with the provisions of this Act. The amount of compensation has been determined by agreement between the State Government and the person to be compensated, it shall be paid in accordance with such agreement. Where no such agreement can be reached, the State Government shall refer the case to the Deputy Commissioner for determination of the amount of compensation to be paid for such acquisition as also the person or persons to whom such compensation shall be paid. The Deputy Commissioner shall serve notice on the owner or occupier of such land and on all persons known or believed to be interested herein to appear before him and state their respective interests in the said land.	Not relevant
Karnataka Land Revenue Act, 1964	Section 94 of the Act confers power on the Deputy Commissioners to remove unauthorized occupation in Government land.	Applicable in case of encroachment of adjoining land around minor irrigation tanks
Indigenous and Vulnerable Groups		

Name of law/policy	Relevant provisions of the Act/ Policy	Relevance for Social Management
The Karnataka Scheduled Caste, Scheduled Tribes and Other Backward Classes (Reservation of Appointments, etc.) Act, 1990	Provides for reservation of appointments or posts in favour of the members of the ST, SC and OBC in the state civil services and establishments in the public sector and admission to universities and to educational institutions established or maintained or aided by the state government.	Relevant in terms of employment opportunities under the program for these vulnerable groups

Further, Karnataka also has a draft Operations and Maintenance (O&M) Policy in place; however, the notification of the policy is still pending. The goal of the O&M policy is, 'sustainable and inclusive service delivery in rural drinking water supply for every household in rural Karnataka'. The objective of the policy is to improve institutional capacity and human resources of RDWSD, GPs and VWSCs to provide efficient, effective and sustainable drinking water supply services and to clarify institutional roles and responsibilities of key sector stakeholders. The policy entails various aspects of O&M, ranging from water resources, institutional arrangements, human resource management, capacity building, IEC, community consultations, financial systems to cost recovery. It also includes a protocol for management of grievances from consumer households and other institutional stakeholders with escalation process, in the event of non-resolution. In addition, it specifies the need for considering cross-subsidy benefits in water tariff for destitute families.

Further, to safeguard the workforce under the program, Labour Codes which amalgamate 29 Central labour laws into four codes on wages, industrial relations, social security, and safety and working conditions were reviewed. Labour being a subject in the Concurrent List of the Constitution, Karnataka has completed the process of finalizing the draft State Rules for Code on Wages and Industrial Relations, while the other two on Social Security, and Safety and Working Conditions are still under draft stage and disclosed in the public domain to seek objections or suggestions.[9]

Overall, the assessment revealed that applicable national and state laws and policies provide adequate safeguards to manage environmental and social risks that emerge from the proposed operation.

[9] https://karmikaspandana.karnataka.gov.in/page/New+Labour+Codes/en

2. Borrower Systems Assessment- Procedures, Practices and Performance

5.1. Introduction

This Program for Results (PforR) on KSRWSP focuses on policies, institutions, accountability and selected infrastructure. This chapter examines the environmental and social institutional systems that are relevant to the activities to achieve the key result areas. These institutional systems can be broadly classified as (i) those within the WSS sector, i.e. where RDWSD and PRED have a role in dealing with the environmental and social issues, and (ii) those outside the WSS sector, e.g. State Pollution Control Board, that support / guide in order to ensure that all WSS activities are done consistent with sound environmental and social considerations. This chapter covers both the institutions and their systems within and outside the WSS sector insofar as this Program is concerned.

5.2. Environment

5.2.1. National-level regulatory institutional systems

At the National level, the Ministry of Environment and Climate Change (MoEFCC) bears overall responsibility for leading the activities on India's Environment agenda, including planning, promotion, co-ordination and implementation. Broadly, the role of the MoEFCC includes: (i) Conservation and survey of flora, fauna, forests and wildlife; (ii) Prevention and control of pollution; (iii) Afforestation and regeneration of degraded areas; (iv) Protection of the environment and (v) Ensuring the welfare of animals. The above responsibilities are effectively discharged with the support of a host of robust policies and legislations promulgated at the National level and aimed at conserving and protecting the environment. Besides, important policies such as the National Conservation Strategy and Policy Statement on Environment and Development, 1992; National Forest Policy, 1988; Policy Statement on Abatement of Pollution, 1992; and the National Environment Policy, 2006 also guide the MoEFCC's work. In the implementation or enforcement side, agencies such as the Central Pollution Control Board (CPCB), Forest Department, CRZ Authority, etc. are the technical arms of the Ministry which carry out specific legal and regulatory functions.

The above National-level regulatory and institutional systems are full-grown, in place and reasonably enforced across all sectors all over the country. Although individual states may also have promulgated state regulations on same/similar themes, the National level regulations are the basic umbrella, under which the state level regulations are created. In context of the proposed RWSS Program, the National-level regulatory systems may not need to be monitored directly as management of local issues, except for a few exceptions, has been devolved to the state. Also, the state of Karnataka has its own robust regulatory mechanisms and manpower to ensure compliance to the National level regulations.

Overall assessment

The environmental impacts associated with the Bank's Program are localized, moderate and reversible. It would not be required to directly apply National-level regulatory and institutional systems as most of the aspects would also be covered by the State level regulatory mechanisms. This systems assessment exercise indicates that there are no significant gaps in the National level systems vis-à-vis the Bank's requirements, that need to be addressed.

5.2.2. State-level regulatory institutional systems

The Environmental Management Policy &Research Institute (EMPRI) is an autonomous institute established by Government of Karnataka on 17th September 2002 under the Department of Forest, Ecology and Environment. The Institute undertakes applied and policy research and also endeavors to provide capacity building trainings on concurrent environmental issues relevant to the society. Services provided by the institute seek to encourage and enable government, industry and civil society to safeguard and manage the natural resources effectively. Amongst other things, this institute assists the Government Departments, NGOs and Public at large in performing the mandatory functions specified in the various environment laws, guidelines and judicial pronouncements from time to time and to assist the concerned agencies in setting up norms. The institution also houses the ENVIS Center for the state of Karnataka.

The State Level Environment Impact Assessment Authority (SEIAA), Karnataka, which has been established under the Environment Protection Act 1986 in order to accord environmental clearances to development projects as per the Act and its rules.

The Karnataka State Pollution Control Board (KSPCB) is the regulatory body that Rule and Notifications framed under Environment (Protection) Act, 1986, such as

1. Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.
2. Environmental Impact Assessment Notification, 2006.
3. Bio-Medical Waste Management Rules, 2016.
4. Plastic Waste Management Rules, 2016.
5. The Noise Pollution (Regulation & Control) Rules, 2000.
6. Construction & Demolition Waste Management Rules, 2016
7. Solid Waste Management Rules, 2016.
8. E-waste (Management) Rules 2016
9. Batteries (Management and Handling) Amendment Rules, 2010
10. The Public Liability Insurance Act, 1991.
11. Fly Ash Notification, 1999 and 2008.

The Groundwater Directorate and Karnataka Groundwater Authority was established under the Karnataka Groundwater (Regulation and control of Development and management) Act-2011 and Rules -2012 with a mandate to perform regulatory functions for management of groundwater in the state, with the aim of preventing overexploitation of groundwater in the state. The main roles of this authority are as below:

1. To notify or de-notify areas for regulation and control the development and management of groundwater.
2. To conduct authority meeting every three months once.
3. To register drilling agencies which fulfil the authority's eligibility criteria.
4. To issue no objection certificates for extraction of groundwater for commercial, Industrial and Entertainment use in notified areas.
5. Registration of the existing users in the notified areas.
6. Grant of permit to extract and use groundwater in notified areas.
7. To implement the objectives of the Karnataka Groundwater (Regulation and control of Development and management) Act-2011 and Rules -2012 through district committees.

The authority is well staffed with important technical personnel such as Geophysicists, Hydrologists and Engineers posted at State as well as District levels to carry out its functions.

Karnataka Forest Department: The Karnataka Forest Department has the primary mandate of protecting the forests and wildlife, conserving the rich biodiversity of the state and ensuring that the ecological balance of the forest eco-systems is maintained. The Department is headed by Principal Chief Conservator of Forests, Head of Forest Force(HOFF). The Department presently has a total working strength of around 8000 executive personnel including Indian Forest Service Officers and officers/ field staff of various cadres. The functions of the Department include: regulatory, protection, conservation and sustainable management. As part of the regulatory functions, the department enforces provisions of various legislations such as Karnataka Forest Act 1963, Wildlife Protection Act 1972, Forest (Conservation) Act 1980, Karnataka Preservation of Trees Act 1976, etc. and corresponding rules. Protection functions include, boundary consolidation, protection of forest areas from encroachment, illicit-felling, mitigation of human-wildlife conflict, undertaking fire prevention and control measures etc. The conservation functions include taking up of plantation works, soil-moisture conservation and watershed development works for water security, conservation of rare, endangered and threatened (RET) species and conducting awareness activities to sensitize all sections of the society on the importance of forests, wildlife and biodiversity. In territorial areas, the department is also involved in sustainable extraction and marketing of timber and other forest produce as per the specifications of the Working Plans. The Department is also engaged on a large scale in promoting agro-forestry through incentivization to support farmer's income. The Department is to be approached for permission for undertaking any development activities on Forest land and is effective in carrying out its functions.

Karnataka Tree Authority: The Karnataka Forest Department also functions as a tree authority and has Tree Officers posted in the districts who evaluate and dispose applications for tree cutting.

Karnataka State Coastal Zone Management Authority: The Karnataka Coastal Zone Management Authority (KCZMA) has been constituted by the Ministry of Environment, Forests and Climate change, Government of India in exercise of the power conferred under sub-section (1) and (3) of section (3) of

the Environment (Protection) Act, 1986 to regulate and perform the functions as stipulated in CRZ Notification 2011. The Authority has the mandate to take measures for protection and improving the quality of the coastal environment. The mandate also includes preventing, abating and controlling environmental pollution in the coastal regulation zones of Karnataka State. The Authority is conferred with the powers to examine the proposals for change or modification in the classification of coastal regulation zone, enquire into cases of alleged violation of the provisions of the Environment Protection Act and to review the cases involving violations of the provisions of CRZ Notification 2011.

The EMPRI, SEIAA, KSPCB, KCZMA, Groundwater Authority and the State Forest Departments are fully functional in the state and with adequate number of officials present in the districts to effectively undertake their regulatory and enforcement functions. Implementation procedures followed by both: RDWSD and PRED, which are the implementing agencies for this project, duly factor in relevant regulations established at the national level as well at the state-level. Any applicable statutory permissions are sought prior to start of works and any procedural requirements and/or environmental compliances prescribed by these agencies are followed as well.

Overall assessment

It is observed that in Karnataka, all relevant regulatory agencies are in place. The agencies are sufficiently staffed for carrying out their functions and implementation procedures adopted by RDWSD as well as PRED duly factor in compliance and other requirements mandated by these agencies. Therefore, broadly it is assessed that the state-level regulatory systems pertaining environmental aspects are well streamlined and the organizational capacities are sufficient.

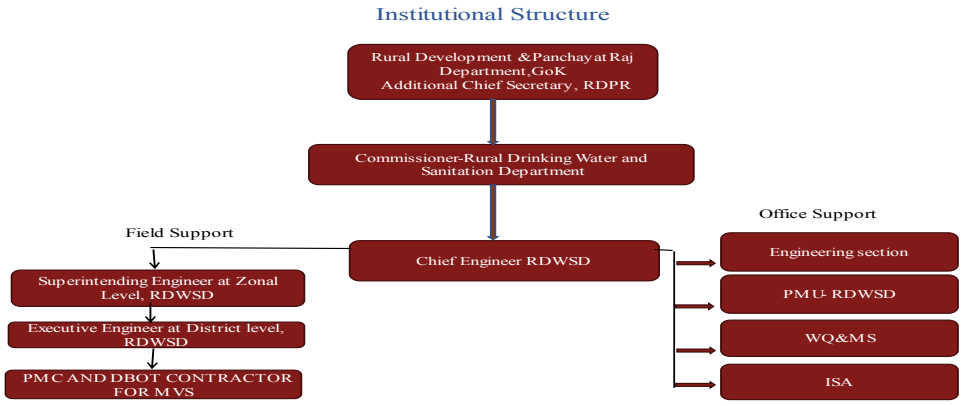
The environmental impacts associated with the Bank's Program are localized, minimal and reversible through appropriate safeguard measures. Hence, the environmental risks are moderate. Some issues of concern such as groundwater stress and quality have been already addressed by the RDWSD's latest policies and actions such promotion of MVS based on surface water sources. The state-level regulatory institutional systems would apply to the Program's physical investments, from planning stage, till construction phase and onward into the O&M phase as well. A few weaknesses in the state-level systems vis-à-vis the Bank's Program requirements have been identified, which can be suitably addressed by strengthening and tweaking the prevailing systems and procedures.

5.2.3. Program level Systems

5.2.3.1. Institutional Structure

The Chief Engineer under the Commissioner, RDWSD oversees all the field support comprising of engineers at the zonal or district level, as well as the office support staff. Chief Engineer is supported in the field by Superintending Engineers (SEs) who are located at four circle/zonal offices (i.e., Bengaluru, Mysuru, Belagavi and Kalburgi) of the state. The SEs are supported by Executive Engineers (EEs) who are located at district/divisional level. Depending on the size and area of the divisional office, a district can have one or two divisional offices and equal number of Executive Engineers. Executive

Engineer oversees the implementation of the program at the ground level. Currently most of the staff with RDWSD are on deputation from other departments. The hierarchy of technical personnel in RDWSD is as below:



Similar structure is followed in the PRED. The personnel perform management and coordination functions pertaining to creation of rural water supply infrastructure or tank rejuvenation works in their respective areas of jurisdiction. Actual preparation of technical designs is done by external technical consultants, specifically hired for the purpose. There is no dedicated manpower in the Departments for performing / coordinating specific environment related functions in the project implementation cycle such as screening, ESMP preparation, environmental compliance monitoring, etc.

5.2.3.2. Procedures and Practices for Environmental Risk Management

The section below captures the procedures along with analytical remarks on their strengths and weakness. It also suggests possible ways of strengthening these procedures to meet the Bank's PforR Core Principles. (See Annex 5 for further details)

Environmental Screening: Current borrower systems are configured to identify statutory issues such as proposed construction on statutorily protected land (forest, CRZ, etc.), which get identified during DPR/PSR preparation stage. However, they do not have any dedicated mechanism to identify and address other environmental impacts such as impact on nearby / adjacent habitations / land or pre-existing infrastructure, drainage flows, prevailing travel routes / pathways, animal / wildlife / grazing corridors, etc. Therefore, borrower systems in respect of EPC contracts need to be strengthened by introducing a formal Environmental screening procedure for identifying any environmental sensitivities or likely issues at DPR preparation stage. Based on the outcome of the screening, preparation of scheme specific ESMPs at DPR stage should be made mandatory for all proposed schemes/works with environmental sensitivities, which will cover statutory requirements as well. Mitigation actions mandated by the scheme-specific ESMP must be made part of bid and contracting documents.

Groundwater Stress Issues[10]**:** Currently groundwater stress issues are addressed by: (a) Drilling of multiple borewells to meet water requirement (b) Drilling of additional borewells in case of existing borewells drying up (c) Connecting to an MVS wherever feasible and (d) Rejuvenating nearby tanks to augment borewell recharge. It is suggested that in case of schemes that are not likely to be connected to an MVS in the immediate future, the environmental screening should seek to identify any ground water stress or availability related issues that may be prevailing in the region where the borewells earmarked as sources for the scheme exist or are expected to be drilled. Wherever required, a geohydrological assessment could be proposed to assess quantum and reliability of yield of borewell. Further, feasibility of any simple and affordable measures to sustain or enhance borewell yield could be determined, including through convergence with other ongoing GoK programs wherever possible. Construction activity should commence only after reasonable confidence is gained on reliability of borewell(s). Necessary measures to address this concern should be included in scheme-specific ESMP.

Groundwater quality (contamination) issues: Groundwater quality issues prevail in several districts of the state. Although a fairly robust water quality surveillance system is in place, it does not currently have provision for testing bacteriological contamination. The state is already in the process of adding facilities for testing of bacteriological parameters in the State Government Labs, which the PforR project will also support. In villages confronted by water quality issues, the GoK typically installs independent RO plants, which supply purified water for drinking purposes at minimal cost, while advising the villagers to use (untreated) water coming from the piped water supply system only for washing/bathing purposes. In this regard, it has obtained a waiver from the MoDWS for relaxing the JJM condition pertaining to supply of only clean, treated and potable water from the piped water supply network. Going forward, the GoK intends to completely eliminate any threats on account of water quality in a majority of villages by providing them with access to treated water in bulk from a MVS wherever feasible. However, in case of villages which cannot be connected to a MVS, it plans to continue with the previous strategy of installing RO plants to supply drinking water at affordable cost. It is proposed that for such schemes, information on water quality including bacteriological contamination in existing as well as proposed bore-wells should be collected during environmental screening. IEC campaigns should be organized to raise awareness amongst consumers that water supplied through pipes is only for washing/bathing purposes. The Department could also consider installing appropriate inline water treatment units wherever economically feasible.

Grey water disposal: The Department is already piloting mechanisms of safe and sustainable disposal of grey water generated in villages. Based in the experiences derived from these pilots, it is planned to replicate such systems all over the state. The Bank will closely follow the progress of the pilots and work with the Department to develop appropriate, effective strategies and plans for replication. The E&S screening procedure will be applied to grey water management systems also to identify any potential impacts, which are most likely to originate from locational issues, inadequate design or works execution. ESMP preparation for sub-projects featuring grey water disposal systems will be mandated to address any identified impacts.

[10] Such as low borewell yield, drying up of borewells, low rate of recharge, low rainfall

Impact on physical/cultural resources: Contractors are contractually obligated to comply with AMSAR and related state regulations. There are no specific systems in place for addressing this issue. Staff awareness on PCR aspects is low. Consequently, PCR related assessment will be included in the screening procedure during DPR preparationand appropriate mitigation actions will be included in the scheme specific ESMP. Further, PCR related topics will be included in training of Departmental and contractor staff.

Borewell recharge measures: The GoK has separate Groundwater and Watershed Development Departments which are exclusively dedicated to undertaking measures on groundwater recharge and soil and water conservation. The RDWSD is encouraged to explore possibilities of convergence with these departments for instituting appropriate groundwater recharge measures in those schemes which are dependent upon borewells for their water.

Environmental impacts of tank construction or rejuvenation[11]: The current implementation procedures for sub-projects pertaining to tank rejuvenation do not have adequate provisions for identifying, assessing and addressing scheme-specific environmental concerns and appropriately monitoring and documenting the actions taken to manage them. Appropriate systems and procedures such as screening format, ESMP, monitoring format, etc. should be developed and adopted by the Department.

Construction activity related impacts[12]: Standard departmental contract documents mandate that all contractors are to address environmental impacts in conformance with applicable regulations. However, prevailing borrower systems do not have dedicated mechanisms to specifically monitor construction activity to ensure that such impacts are indeed addressed adequately. Hence, appropriate provisions should be made in current contract management systems to provide for environmental monitoring while construction is in progress.

Natural catchment protection measures and/or maintenance of network of natural recharge channels for freshly constructed or rejuvenated tanks: Current borrower systems have no provision for addressing catchment protection issues. Therefore, preparation of a sub-project specific ESMP that also addresses catchment protection issues as applicable, should be made mandatory for all new tank construction and rejuvenation works.

Workers' Health and Safety during construction: Current borrower systems mandate all contractors to adhere to applicable labor laws and relevant OHS standards during works execution. Departmental Engineering staff are responsible for monitoring and ensuring compliance. However, lack of sustained monitoring sometimes leads to inadequacies in conforming to OHS norms, particularly in terms of site

[11] such as debris disposal, obstruction to drainage flows, impacts on community land use (grazing, cultural activities, sports, etc.), impact on travel routes/pathways/trails, impacts on animal/wildlife corridors, etc.

[12] (for RWSS as well as tanks) such as road / pathway obstruction, dust/air quality, noise, traffic management, impact on institutions/public facilities located in the vicinity, site restoration post completion of construction activity, etc.

safety features, signages, and worker safety provisions. Consequently, there is scope for further strengthening contract monitoring procedures, particularly from the angles of documentation and periodic reporting

O&M practices related to health and safety: Borrower systems are weak on O&M practices such as inadequate site maintenance, absence of proper chlorination, inadequate waste management, etc. which could lead to community health impacts. Further, maintenance routines pertaining to safety equipment and certain safety protocol are often ignored during O&M. There is a need to strengthen O&M regime to ensure that all matters related to site, community and worker health and safety are appropriately managed. Further, O&M monitoring system need to be strengthened to ensure that all O&M related issues are adequately addressed and documented.

Safety features in scheme design/plan: While prevailing departmental systems mandate preparation of all scheme/component designs in conformance with relevant safety norms and standards, they have no specific provision for formally cross-checking and documenting whether relevant safety features are indeed present in the scheme design. Consequently, it is observed that a number of safety aspects, such as lightning arrestors on OHTs, railings on OHT ladders, fencing of pumphouse/OHT sites, multiple clamps on submersible pump pipes, fire safety apparatus, etc. tend to get left out during design and budget preparation. The issue can be addressed by (a) training of DPR consultants as well as departmental engineering personnel on minimum safety considerations in water supply schemes, and (b) strengthening DPR review process by adding a minimum safety features/equipment checklist.

The two tables below have attempted to capture the procedures followed within RDWSD and PRED respectively for planning, constructing and operating water supply schemes and undertaking tank rejuvenation works. The same tabes also provide suggestions on how the treatment of environmental considerations can be enhanced in relevant procedural steps.

RDWSD: EPC PROCEDURE FOR SVS PLANNING, CONSTRUCTION AND COMMISSIONING
(FOR SCHEMES COSTING LESSER THAN RS. 50 CR)

Step No	Short Title	Description of Procedural Step	Responsible Officials or Functionaries	Remarks	Suggestions for systems strengthening
1	Scheme Proposal	Request for RWSS at required location	Elected rep/GP/CEO ZP/ Departmental Plans	Request submitted to Department	Nil
2	DPR/Line Estimate	• Preparation of DPR or Line Estimate • Source/nearby source water quality testing is done at this stage	Consultants appointed by EE and inhouse water quality monitoring and surveillance team	• Important E&S issues (forest, etc.) are identified and flagged in the Tender document and made part of the agreement with the Contractor. • No dedicated E&S screening or ESMP preparation is done	• Add a procedure on Environmental screening comprising of a simple Environmental Screening Format • Prescribe EMP preparation for Environmentally sensitive schemes • Create posts for an Environment Specialist in State level and District level PMUs for

					undertaking Environmental screening and EMP preparation
3	Admin Approval for DPR	Project cost upto Rs. 2.5 Cr Rs. 2.5 – Rs. 5 Cr Rs. 5 Cr – Rs. 10 Cr Above Rs. 10 Cr.	CEO, ZP Director RDWSD Addl. Chief Secretary Cabinet	Nil	Nil
4	Technical Sanction	Project cost upto Rs. 1 Cr Rs. 1 – Rs. 5 Cr Above Rs. 5 Cr	EE SE CE	Currently EHS/OHS aspects of DPR are not examined in TS	Mandate review of EHS/OHS aspects of DPR and soundness of EMP in TS procedure
5	Inviting Tenders	Tenders are invited by EE. They contain design and BoQ	EE	• Bid documents have broad clauses for EHS/OHS compliance • No ESMP or EHS/OHS requirements are attached	• Add elaborate clauses on EHS / OHS compliance in tender documents • Include EMP along with DPR in tender
6	Tender evaluation: Technical Bid Opening	Technical bids are evaluated as per the delegated powers of the authorities giving administrative approval	Tender Scrutiny Committee TSC composition is as below: **<u>For bids upto Rs. 2.5 Cr</u>** Headed by CEO ZP EE – Member Secy Accs Officer ZP - Member **<u>For bids above Rs. 2.5 Cr</u>** Headed by Director RDWSD, CE RDWSD is Member Secy, CE PRED Member Chief Accs Officer – Member SEs RDWSD HQ - Members	There are no specific EHS/OHS criteria in the technical bid evaluation procedure	Include review of EHS/OHS aspects of Technical Proposal as one of the tender evaluation criteria
7	Financial Bid Opening	Financial bids of technical bidders declared eligible are opened	EE	Nil	Nil
8	Tender Evaluation of Financial bids	For Competitive Bids (multiple bidders)	Tender Scrutiny Committee TSC Composition: **Up bids to Rs. 2.5 Cr** Headed by CEO ZP EE – Member Secy Accs Officer ZP – Member	***For competitive bids*:** L1 bid will be awarded ***For single bids*:** • If at par or lesser than tender amount: will be awarded • If in excess of tender amount: Proposal with recommendation will be forwarded to next higher authority (Director's Office through SEs of concerned circle)	Nil

			For bids > Rs. 2.5 Cr Headed by Director RDWSD, CE RDWSD is Member Secy, CE PRED Member Chief Accs Officer – Member SEs RDWSD HQ - Members	***For competitive bids***: L1 bid will be awarded ***For single bids***: • If at par or lesser than tender amount: will be awarded • If in excess of tender amount: • The proposal will be referred to the Tender Acceptance Authority ACS RDPR: Head Dir RDWSD: Mbr Secy Members: CE RDWSD, CE PRED, Dir CGWB	
9	Contract Award	Work order is issued	EE	Contract document has standard clauses on EHS / OHS compliance	Contract document to be modified to reflect compliance to EMP as a condition
10	Contract Monitoring/ Management	Monitoring of construction activity	At site: AE/JE 1st Supervisory Authority: AEE 2nd Supervisory Authority: EE 3rd Supervisory Authority: SE of concerned Circle	• Supervision includes monitoring of all regulatory compliances mentioned in contract. • No dedicated EHS/OHS monitoring procedures are defined.	• Add procedural step pertaining to EHS/OHS monitoring during construction phase and associated documentation • DTSS Environment Specialists to be responsible for driving this activity along with field officers (AEs and JEs)
11	Works completion	Final inspection of scheme to assess completion status Water quality testing and quantity is ensured done at this stage	At site: AE/JE 1st Supervisory Authority: AEE 2nd Supervisory Authority: EE 3rd Supervisory Authority: SE of concerned Circle	No verification of compliance to E&S considerations is done	• Add procedural step on confirmation of presence of all necessary EHS/OHS requirements as per EMP in the completed infrastructure • DTSS Environment Specialists to undertake this function along with field officers (AEs and JEs)
12	Commissioning and O&M	Scheme undergoes trial runs and is subsequently commissioned and routine O&M activities start	Contractor	• Scheme is operated and managed by Contractor during defect liability period • Contractor's obligations regarding EHS/OHS compliance during O&M phase not defined comprehensively	• Define and add procedures on monitoring and confirmation of EHS/OHS compliance during O&M period • Field officers (AE and JE) will be responsible for this function. Environment Specialist from DTSS will provide guidance and supervision

PRED: PROCEDURE FOR UNDERTAKING TANK REJUVENATION WORKS INTRA-DEPARTMENTALLY (For Works Costing about Rs. 50,000 to Rs. 25 Lakhs)

Step No	Short Title	Description of Procedural Step	Responsible Officials or Functionaries	Remarks	Suggestions for systems strengthening
1	Proposal	Action Plan preparation based on available budget (proposal)	AEE/EE	Nil	Nil
2	Line Estimate	Preparation of line estimate	AEE and EE	Nil	Nil
3	Approval of Action Plan	Action Plan and budget is approved	CEO and ZP Committee	Nil	Nil
4	DPR and Estimate preparation	DPR and Estimate are prepared	AEE/EE	• Standard regulatory issues pertaining to Environment are considered. • No specific EHS/OHS assessment is undertaken	• A short procedural step on EHS/OHS assessment leading to preparation of an EMP should be added. • EMP should be included in DPR • Responsibility for screening, EMP preparation and overall coordination, guidance and other Environment management related functions could be allocated to the Environment Specialist in the corresponding district level RDWSD PMU under overall control of Environment Specialist in the RDWSD PMU. PRED to issue an appropriate order in this regard
5	Technical Sanction	Upto Rs. 10 Lakhs Rs. 10-100 Lakhs Rs. 100-200 Lakhs > 200 Lakhs	AEE EE SE CE	Other than standard regulatory provisions, TS does not take into account EHS/OHS aspects	• TS procedure be modified to evaluate the EMP before clearing the DPR • ES, DTSS (RDWSD) can facilitate if required
5	Inviting Tenders	Tenders are invited	EE	Other than standard regulatory provisions, Tender does mention specific EHS/OHS aspects	EMP should be included along with DPR in the tender. EMP preparation to be guided and overseen by ES, DTSS (RDWSD)
6	Tender evaluation: Technical Bid Opening	Technical bids are opened and evaluated	EE	Evaluation report with recommendation of eligible contractors is submitted to next higher official (EE/SE/CE) for Technical Bid Approval Only technical aspects are examined. No specific environmental criteria are evaluated	Environmental criteria to be added to tender evaluation criteria for determination of eligible contractors. ES, DTSS (RDWSD) to provide guidance and oversee
7	Technical Bid Approval	Official will peruse Evaluation Report and approve the findings or suggest changes/disqualification of certain contractors based on contractor eligibility criteria	EE/SE/CE	Eligible contractors declared	Nil

8	Financial Bid Opening	Financial bids of Eligible Contractors are opened	EE	EE recommends L1 financial bid approval	Nil
9	Financial Bid Approval	Negotiations with respective contractors if necessary. Winning bidder is approved and declared	EE/SE/CE	As per delegation of powers, L1 bidder is recommended for award of contract	Nil
10	Contract Award	Contract is awarded and agreement is signed	EE	Works can start	Nil
11	Contract Monitoring/ Management	Work in progress is monitored against contract provisions and applicable regulations	AEE/AE/JE	Monitoring takes place but it is not a structured EMP monitoring	Initiate structured EHS/OHS monitoring. ES, DTSS (RDWSD) to provide guidance and oversee
12	Works completion	Completed rejuvenated tank is handed over to GP/PRED	EE	General Environmental compliances are verified: Forest, waste management, etc. However, they are not included in completion format	Add an additional step pertaining to Environment compliance check. Completed works will be checked for fulfilment of all EMP provisions. ES, DTSS (RDWSD) to provide guidance and oversee

Overall assessment

It is evident from the above tables that there are obvious gaps in the Borrower systems (both RDWSD and PRED) on elements of Environmental due diligence in their implementation procedures. Due to these gaps, the systems may not be able to fully align with the requirements of the ESSA core principles in terms of efficacy of the present systems to deal with typical environmental issues and implications encountered during implementation of projects of this nature. Therefore, based on the gaps identified above and suggested strategies for improvement provided therein, a Program Action Plan to strengthen prevailing systems on the lines suggested, along with recommended timelines, has been provided in a subsequent section. The improved systems will be designed in a manner that makes their application simpler, user-friendly and improves their documentation aspects, thereby significantly improving their effectiveness.

5.3. Social

5.3.1. National-level regulatory institutional systems

Department of Drinking Water and Sanitation under Ministry of Jal Shakti[13]

The Department of Drinking Water and Sanitation provides technical and financial assistance to the States to provide safe and adequate drinking water to rural India with focus on service delivery. The Department's Centrally Sponsored Scheme, the National Rural Drinking Water Programme (NRDWP), was restructured and subsumed into Jal Jeevan Mission (JJM) to provide Functional Household Tap Connection (FHTC) to every rural household i.e., Har Ghar Jal, by 2024. It has been playing a proactive role in closely monitoring the implementation of the Mission in the States/ UTs. The department has also formulated operational guidelines in consultation with all the States/ UTs and other stakeholders In this regard, a dashboard and IMIS has been created and is available on the website of the Department, wherein public can avail information up to the district level, about the number of

[13] https://jalshakti-ddws.gov.in/

household tap connections provided. Moreover, Grievance Redressal Cell has been constituted in the Water wing of the Department to redress public grievances related to water supply. An online grievance portal has also been developed to receive the online grievances.[14]

Ministry of Rural Department[15]

Ministry of Rural Development is the nodal agency for development and welfare activities in the rural areas. The vision and mission of the Ministry is sustainable and inclusive growth of rural India through a multipronged strategy for eradication of poverty by increasing livelihoods opportunities, providing social safety net and developing infrastructure for growth. The Ministry consists of two Departments, viz., Department of Rural Development and Department of Land Resources. The Department of Rural Development plays a pivotal role in terms of planning, implementing, and funding programmes on livelihood opportunities, particularly for BPL households, including women and other vulnerable sections (e.g. MGNREGA, NRLM), building capacity and training of rural development functionaries, watershed development programmes (IWMP), etc. The central government had launched the Pradhan Mantri Gramdoya Yojana (PMGY), wherein the Ministry of Rural Development was entrusted with the responsibility of implementing drinking water, housing and rural roads component of PMGY. The department is relevant in terms of convergence and implementing the program activities related to tank rejuvenation, IEC and capacity building of gram panchayats.

Ministry of Labour and Employment[16]

The main responsibility of the Ministry is to protect and safeguard the interests of workers in general and those who constitute the poor, deprived and disadvantaged sections of the society with due regard to creating a healthy work environment for higher production and productivity and to develop and coordinate vocational skill training and employment services. These objectives are sought to be achieved through enactment and implementation of various labour laws, which regulate the terms and conditions of service and employment of workers. The State Governments are also competent to enact legislations, as labour is a subject in the concurrent list under the Constitution of India. The implementation of labour laws is necessary under the proposed construction activities in the Program.

Ministry of Social Justice and Empowerment[17]

The Ministry of Social Justice and Empowerment is entrusted with the welfare, social justice and empowerment of disadvantaged and marginalized sections of the society viz. Scheduled Castes, Backward Classes, Persons with Disabilities, Aged persons etc. the basic objective is to bring the target groups into the mainstream of development by making them self-reliant. The Ministry is also the nodal agency to oversee the interests of Scheduled Castes.

Overall Assessment: Out of these Ministries, the Department of Drinking Water and Sanitation under Ministry of Jal Shakti has a significant role in terms of closely monitoring the implementation of the JJM

[14] Link of online grievance portal on https://ejalshakti.gov.in/ISC/frmGrievanceEntry.aspx
[15] https://rural.nic.in/en/department-rural-development
[16] http://www.labour.nic.in/
[17] https://socialjustice.gov.in/

in all States/ UTs including Karnataka. The comprehensive operational guidelines for the JJM have been framed by the Ministry and covers all the core principles of inclusion, participation, transparency and accountability. The assessment found no gaps in these systems vis-à-vis the Bank's Program.

5.3.2. State-level regulatory institutional systems

Rural Development and Panchayat Raj Department (RDPR)

Karnataka's RDPR Department is headed by the Additional Chief Secretary, which has three Commissionerate i.e. Commissioner, Panchayati Raj; Commissioner, Rural Development (RD) who heads the Panchayat Raj Engineering Department (PRED); and Commissioner Rural Water and Sanitation who heads Rural Drinking Water and Sanitation Department (RDWSD) and report to the ACS (RDPR). The department is responsible for implementing different central and state schemes and programmes such as MGNREGS, Swatch Bharat Mission, Jaladhare/Jal Jeevan Mission, Gram Vikas Yojana, among others.

The Commissionerate's of RDWSD and PRED are headquartered in the state capital Bengaluru and are supported by their respective division offices in each district. These division offices report to the Zilla Panchayat – Chief Executive Officer (ZP CEO) at the district level as well as to the respective Commissionerate's. Division office of PRED, is headed by an Executive Engineer (EE) who looks after rural roads, housing, tanks, and other rural infrastructure. Division office of RDWSD is also headed by an Executive Engineer (EE) who looks after water and sanitation works. Executive Engineers of PRED divisions and RWS divisions report to the Zilla Parishad CEO.

The Program will be implemented by RDWSD, who is the custodian of the Jaladhare 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. Since a major portion of the program will be implemented by the RDWSD, hence they will be the nodal agency which will coordinate the Program with support from Panchayat Raj Engineering Division (PRED) who will implement tank rejuvenation.

Revenue Department[18]

The Revenue Department has four subordinate departments under it, of which the Department of Land Survey and Land Records is the most relevant. The department has four regional commissioner office (Mysore, Bengaluru, Belgavi and Kalburgi) is responsible for land administration including maintenance of land records, it also includes the assessment and collection of land revenue and also collection of the other public dues which are collected as arrears of land revenue. The Deputy Commissioner is a designated Revenue officer in various laws governing the land to deal with disputes arising out of land records and management of public lands and properties. The other revenue officers,

[18] https://kandaya.karnataka.gov.in/english

namely, the Assistant Commissioners, the Tahsildars and the Deputy Tahsildars also perform functions of dealing with land disputes under the overall supervision and control of the Deputy Commissioner.

The various special economic programmes like Jawahar Grama Samrudhi Yojana (JGSY), Swarnajayanthi Grama Swarozgar Yojana, etc. are implemented by the Zilla Panchayats in each district. Since these programmes call for an integrated effort by various field departments at the district level, the Deputy Commissioner is responsible for co-coordinating and guiding the implementation of these programmes.

Labour Department[19]

The Labour Department has three field departments functioning under its aegis. The major 3 field departments are: (a) Labour Commissioner which is responsible for implementation of various labour laws related to working conditions, industrial relations, and welfare measures for laborers; (b) Department of Factories, Boilers, Industrial Safety and Health responsible for implementing industrial safety, health care, occupational diseases and factories functions under Factories Act 1948 and Boilers Act 1923 and ; (c) Employees State Insurance Scheme (Medical) Services Department responsible for managing and running of hospitals and pharmacies for workers who are members of the ESI scheme. All the 3 departments are working independently. The Secretary of the State Labour Secretariat coordinating and supervising the three departments directly reports to the Labour Minister. The department has an online toll-free helpline no. 155214 to report on any labour standard related complaints. The department also has multiple online modes of filing grievances such as WhatsApp / Telegram, e-mail: labourhelpline.karnataka.govt@gmail.com, and Twitter.

Health and Family Welfare Department[20]

In Karnataka, the data for the JJM Integrated Management Information System (IMIS) is typically collected at the habitation level by the pump operator or an Accredited Social Health Activist (ASHA) worker, employed by the Health Department.

Overall Assessment: The State level regulatory systems are consistent with the core principles and key planning elements defined in the PforR Policy and Directive. Structural arrangements will be established at the state level to ensure effective and timely coordination and delivery of services. A High-Powered Committee (HPC) will be setup under the Program, chaired by the Chief Secretary with representatives from RDPR, Finance Department, and the Implementing Agencies for providing oversight, strategic guidance, and policy direction for the Program. In addition, a Program Steering Committee (PSC) will be established with commissioners of RDWSD and PRED, chief engineers, nodal officers of the Program, finance controllers of the departments, etc. as members. The committee will be chaired by the ACS GoK.

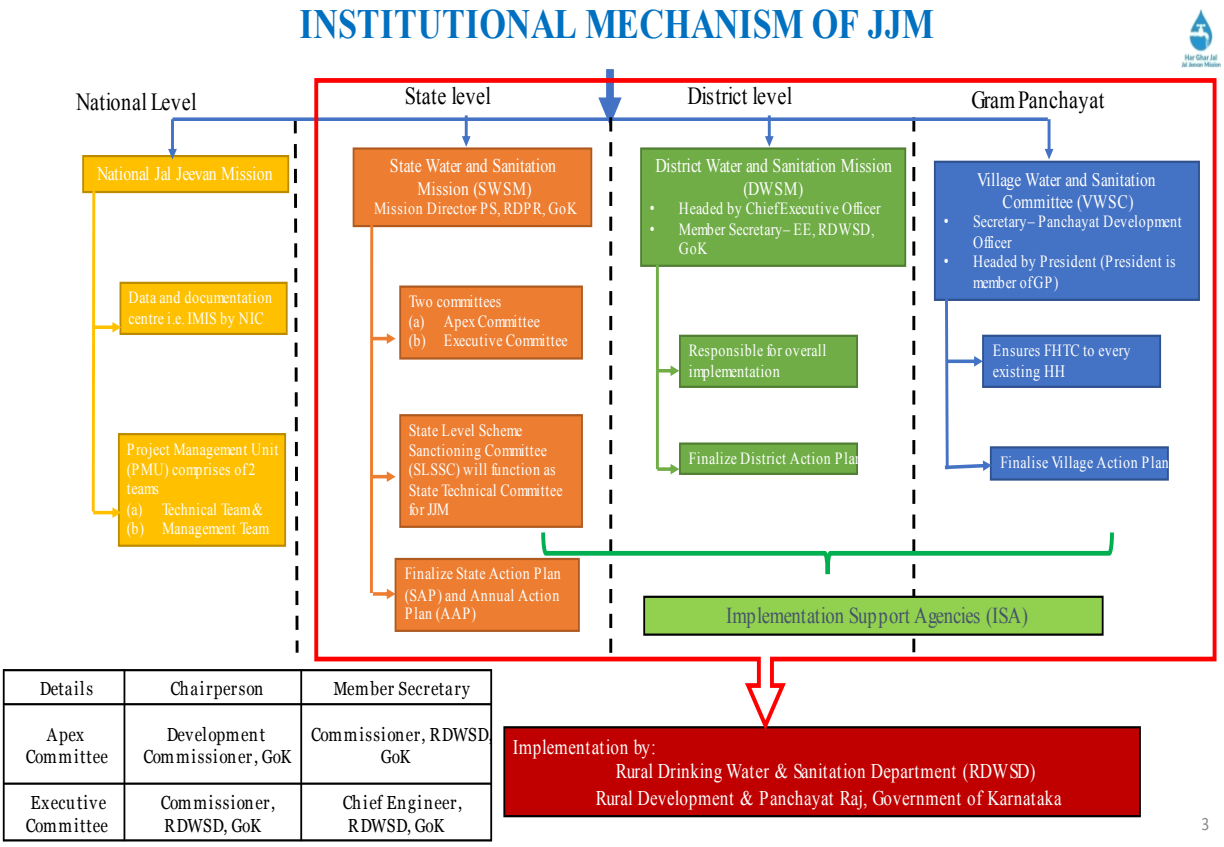
[19] https://labour.karnataka.gov.in/english
[20] https://karunadu.karnataka.gov.in/hfw/pages/home.aspx

5.3.3. Program level Systems

5.3.3.1. Institutional Structure for Implementation of JJM

The Rural Drinking Water and Sanitation Department has the overall responsibility for rural water supply in the state. It was established in 2014 under the Rural Development & Panchayat Raj Department (RDPR). The state institutional structure for rural WSS is decentralized with responsibilities delegated to GPs at the village level, taluks at the block level, and zillas at the district level. RDWSD, being the nodal agency for JJM, has institutionalized systems and procedures to facilitate the implementation of the *JJM/Jaladhare* program in Karnataka.

RDWSD has designated a Director for Implementation Support Agency who oversees all the Information, Education and Communication (IEC) activities related to water and sanitation in the state. The Director is supported by staff and consultants responsible for IEC, HRD, and GRM at the state level. At the district level, local NGOs/CSOs have been engaged as Implementation Support Agencies (ISAs)/ Implementation Support Resource Agencies (ISRAs) to handhold the local communities through IEC, community mobilization, trainings, etc. To ensure active participation of rural communities at the village level, sub-committees of Gram Panchayat, i.e., Village Water & Sanitation Committees (VWSCs)/ Paani Samitis have been constituted. *JJM/Jaladhare* also mandates that 50% of the VWSC members are women and proportionate representation is given to the weaker sections of the society. The figure and table below provide a list of key stakeholders under Jaladhare/JJM and captures their key functions.



Details	Chairperson	Member Secretary
Apex Committee	Development Commissioner, GoK	Commissioner, RDWSD GoK
Executive Committee	Commissioner, RDWSD, GoK	Chief Engineer, RDWSD, GoK

Key Stakeholders and their functions responsible for social management under the Jaladhare/ JJM

Institution / Stakeholder	Key functions
Rural Development and Panchyat Raj Department (RDPR)	1. Facilitate budgetary allocation, monitoring and review of the JJM/Jaladhare programme, facilitating approvals as required, liaisoning with the three tier PRIs.
Rural Drinking Water & Sanitation Department (RDWSD)	1. The department is responsible for technical and administrative vetting and approval of contracts (DBOT and EPC), on-site monitoring of works undertaken by the contractor, quality checks, provide approvals for the project designs & implementation; provide approvals for variations; provide technical sanctions; facilitate administrative sanctions, review of designs, drawings, reports etc. 2. Under the program, RDWSD field staff (EE, AE and JE) will be responsible for ensuring that social screening is carried out at the PSR and DPR preparation, embedding social provisions in the bid document and overseeing labour standard compliance by the contractors during construction.
State Water and Sanitation Mission (SWSM)	1. There are currently 30 staff members/consultants associated with the SWSM, housed at the RDWSD. The mission comprises of Director ISA, Coordinator for IEC, Coordinator for HRD, Documentation expert, M&E consultant, MIS Consultant, WQMS and Technical staff. 2. SWSM is responsible for implementation of JJM at the state level. As per the JJM, SWSM will support in creation of DWSMs, ensure necessary capacity building, regular monitoring of its functioning; coordinate with DWSMs, collate information, finalize Annual Action Plans (AAPs). The mission will also be responsible for empaneling construction agencies, ISAs/ISRAs, and engage third party inspection agencies for inspection of works. It will finalize State Information, Education and Communication (IEC)/ Behavioural Change Communication (BCC) strategy and ensure effective utilization of the earmarked support fund for IEC activity.
District Water and Sanitation Mission (DWSM)	1. There is a total of 200+ staff associated with the DWSM across the state. Each mission consists of a District Project Manager, MIS Consultant, Geologists and Technical Staff. 2. DWSM is headed by Deputy Commissioner/ District Collector (DC). The District Project Manager does the coordination between RDWSD, ISA, ISRA and Zilla Parishad (JJM).

	3. DWSM ensures that Village Action Plan (VAPs) are prepared in coordination with the GPs and VWSCs, and accordingly approves the plan, and finalizes a District Action Plan (DAP). Furthermore, it facilitates deployment of NGOs as ISAs, implements IEC/BCC activities, and identifies individuals to be trained as master trainers at State level who will in-turn build capacities of Gram Panchayat and VWSC.
Implementation Support Agencies (ISA) and Implementation Support Resource Agencies (ISRA)	1. ISAs and ISRAs are mostly NGOs empanelled at the District Level for a period of 3 years. 2. Each ISA must have a team leader, two IEC experts, two social development experts and water supply engineer. As on date, 34 ISAs have been empanelled at the district level. In some districts such as Tumakuru and Uttar Kannada, additional ISAs have been empanelled to meet the requirement. Currently, a total of 210 staff are working under the ISAs. The ISA is responsible for (a) preparation of Village Action Plan and District Action Plan under JJM, (b) mobilization of community contribution, O&M arrangement, etc., (c) undertaking Information, Communication and Education campaigns in the GPs and (d) carrying out training and capacity building activities related to greywater management, water quality, water source augmentation, etc.; carry out social behavior change communication activities; and document and upload success stories from villages. 3. ISRA comprises 1 team leader and 12 community mobilizers. Till date, 38 ISRAs have been empanelled at the district level. Bagalkot, Tumakuru, kalaburgi, Raichuru, Uttar Kannada, and Vijayapura districts have empanelled additional ISRAs. The ISRA is mainly responsible for IEC (street plays, workshops, screening of short films, awareness campaigns etc.) and HRD activities such as capacity building training of VWSC and PRI members, mason, plumbers, fitters, pump operators and waterman, ASHA, Anganwadi workers and NGOs.
District Administration/ Zilla Parishad	1. District Administrative offices are responsible for approval of district action plans, setting up of source finding committee, ISA monitoring, operation and maintenance of MVS, including operation and maintenance of water testing laboratories.
Gram Panchayats (GPs)	1. Undertake O&M functions of SVS and in-village infrastructure such as Operation, Maintenance, Budgeting and Tariff setting, Billing and Collection, Accounting and Auditing, Monitoring, Regulation, and managing Grievance Redress Mechanism (GRM) at the village level. 2. GP constitutes Village Water and Sanitation Committees (VWSCs) and enable their functioning. They are also responsible for maintaining water supply works either on its own or by annual contract by

	generating adequate resources, make bye-laws regarding provision of water supply, as well as protect sources of water. 3. They hire staff such as watermen and pump operators to monitor water quality of input water at OHTs on a regular basis.[21]
Village Water and Sanitation Committee (VWSC)	1. VWSC consists of approx. 10-15 members comprising elected members of Panchayat and community members of which 50% are women members and remaining 25% consist of representatives of weaker sections of the village (SC/ST). The sub-committee mainly consists of chairperson, members, and PDO/ Panchayat Secretary. 2. Tenure of sub-committee are mostly kept at 2-3 years and Gram Sabha during the JJM period will have the option to reconstitute the sub-committee. In case the tenure of elected members of Panchayat in the VWSC has ended, then the DWSM may ensure the continuation of VWSC till such time the GP is reconstituted. 3. VWSC is responsible for preparation of the VAP, which lays out a plan to provide FHTC to every rural household, treat the generated greywater and plan its reuse, undertake surveillance activities, etc. The VAP also indicates the land availability for laying of pipelines, etc. and timelines for completion of work.[22] 4. Once the civil works is completed and the scheme is handed over to the village, the VWSC is responsible for operation and maintenance of the in-village water supply systems. The committee is also responsible for community mobilization for PRA activities and community contribution for in-village infrastructure capital expenditure.

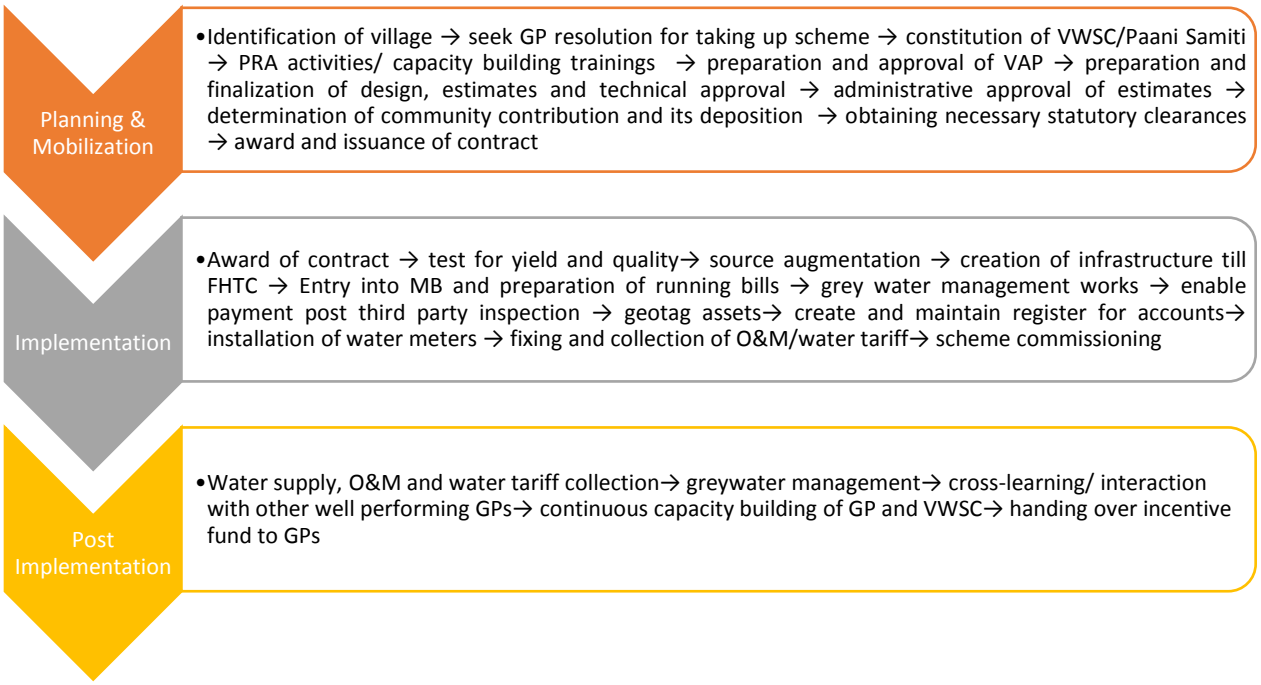
Overall Assessment: While sufficient staff is in place to manage activities related to social inclusion, stakeholder engagement and grievance management, there is no dedicated staff nor budget allocated at the state level for overseeing social risk management pertaining to addressing pre-construction issues such as land identification, screening, etc. and construction stage social issues including compliance to labour standard during planning and implementation phase. The assessment identified the need to strengthen the organization by recruiting a full time Social Specialist at the RDWSD headquarter on priority to attend to compliance, regulatory, operational as well as capacity enhancement activities related to social risk management.

[21] Karnataka employs a total of 26,144 watermen and 8,453 pump operators. Their main role is to operate and maintain pumps of SVS, test water quality, check for residual chlorine in the water and chlorinate as necessary, clean village level OHTs, undertake meter readings, and collect monthly water charges from consumers.

[22] The following themes are covered under the VAP- Geographical coordinates, demographic details, agricultural cropping pattens, rainfall patterns, available water sources and water infrastructural assets in the village, distributional network and house tap connections, water quality, history of water borne diseases, water requirement, VWSC membership, staff engaged by VWSC, etc.

5.3.3.2. Procedures and Practices for Social Risks Management

The section below captures the procedures under JJM/Jaladhare for development of in-village water supply infrastructure and SVS. The scheme-cycle is divided into three phases: (a) planning and mobilization phase (b) implementation phase and (c) post- implementation phase. The steps under each phase have been detailed below:



The following practices have been adopted under the scheme-cycle for land management, labour compliance, grievance redressal, citizen engagement, participatory appraisal, and social inclusion:

a. Land and related impacts: The assessment revealed that land requirement (from 10 sq meter to 30 sq meter e.g. overhead tank) for SVS and in-village infrastructure are relatively less, thus consultants hired by Executive Engineer (Divisional level) for preparation of DPRs mostly identify land belonging to the government (mainly Revenue or GP) which only requires internal transfer using the established government procedures. Often, during laying of pipelines existing Right of Way (RoW) are used, which will not have any implications on land but may cause temporary disruption to services during construction.

b. Labour Standard Compliance: EPC contracts/bid documents of in-village infrastructures work specifies that the contractor/ sub-contractor must comply with all laws, rules and regulations applicable to labour, occupational health and safety. It further states that contractor shall keep the employer indemnified in case any action is taken against the employer on account of non-compliance and that any fine paid for such non-compliance shall be deducted from the security deposit or the amount due to the contractor. However, assessment revealed that no procedures are in place to monitor such statutory (non-) compliances during the construction period. While in some divisions, Project Management Consultants (PMCs) have been

empanelled to supervise construction related activities, no uniform practice has been adopted across the state to ensure that labour welfare, occupational and community health and safety are periodically monitored.

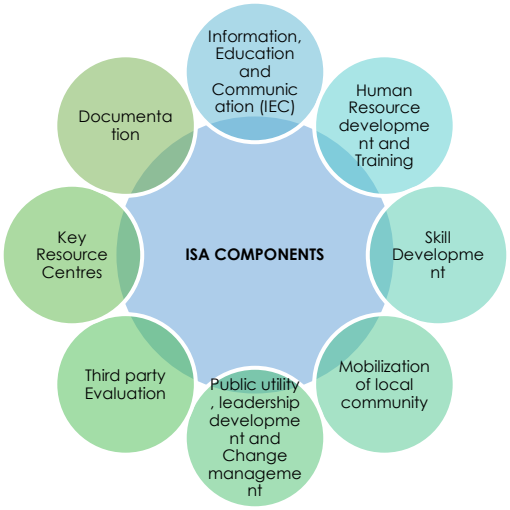
c. Grievance Redressal Mechanism: The RDWSD has a four-way complaint receipt system wherein complaints can be filed through Parihara website, WhatsApp, phone no. and Facebook. The system generates a unique ID/token for each complaint. There is a backend system of responsibility matrix for user-centric categorization, response, alert, escalation and customer feedback. At present, 13 operators and one TL are engaged as operators. There are two shifts- first shift is from 6 am -2 pm and second shift is from 2 pm- 10 pm.

Operator raises complaints related to water supply to the concerned PDO. The time allocated for resolution of complaint is two days, within which the PDO will share an action taken report through the Parihara website (separate password and ID is given to each PDO to access the system online). On receiving the status, Parihara calls back the customer to close the complaint. Additionally, a Customer Satisfaction Survey call is made within 7 days of closing the complaint. Complaint is reopened if the customer is not satisfied with the action taken. If the complaint is not resolved, it is escalated to the EO, followed by CEO-ZP and then to the Commissioner. Every month a customer satisfaction report is prepared by the team. From February- July 2022, the operators have received approx. 1325 complaints, out which 242 complaints were related to water supply issues. To create awareness and disseminate information about Parihara- radio jingles, advertisements and posters have been circulated among the GPs for display in offices and public spaces.

The functionality assessment (February-April 2022) of JJM revealed that in Karnataka almost 72 % of villages reported that they are aware of any grievance redressal mechanism, but only 5 % HHs have reported a complaint in the last one year amongst which 3 % reported that the complaints are fully resolved while 2 % of complaints have been partially resolved. Among those who reported complaint (i.e., 5% HHs, 18 villages), 44% of villages reported that they report their grievances to block functionaries beside other reporting-points (11% - Helpline, 28% - district PHED, 6% - online portal, 11%- self resolution).[23] Interactions with communities undertaken, as part of ESSA also indicated that most complaints were directly being addressed by the PDO, plumber and the waterman, but there was no indication of the time-period within which these complaints were addressed, and the escalation processes followed. This highlights the need for strengthening the reporting and documentation processes of complaints received directly at the field level.

[23] https://jaljeevanmission.gov.in/sites/default/files/2022-10/FA-State-Report-Karnataka.pdf

d. Stakeholder Engagement: The JJM program focuses on Information, Education and Communication (IEC) and behaviour change communication activities, for which ISA have been empanelled at each district covering at least 40-60 villages. The assessment showed that Jaladhare's resource allocation to community mobilization (INR 259.63 Lakhs) is significantly less compared to similar efforts like the Swachh Bharat Mission (INR 1,727 Lakhs). Currently, there are 34 ISAs and 38 ISRAs in the state. The ratio of ISA/ISRA to district is 1:1 and in some districts 1:2, which seems inadequate to meet the requirements/achieve the targets set out in the JJM. RDWSD proposes to empanel an additional 81 ISRAs to implement IEC and HRD activities under the program.



Additionally, eight community radio stations have been hired to create awareness on water and sanitation, behavior change, water literacy, rainwater harvesting systems, including hand washing through interviews, jingles, and debates on air. Six video agencies and 12 individual filmmakers have also been empaneled to create content for technical trainings and awareness building on various topics. State IEC Action Plan is prepared annually which is approved at the Apex Committee. The plan indicates the estimated costing and manpower required, and the types of IEC activities to be carried out at the GP and district level (e.g., street plays, workshops, exposure visits, social mobilization activities such as SHG and school rallies, essay writing, painting competition, etc.).

e. Monitoring and Evaluation: The JJM guideline mandates participatory planning and appraisal through social audits. The assessment revealed that these are yet to be carried out, however discussions to collaborate with the Directorate for Social Audit (RDPR) have been initiated. Social audit will be undertaken every six months. Village Resource Person will be designated for facilitating the social audit process at the village level. The need of the hour is a social audit manual/guidelines and extensive trainings on the social audit proceedings for GPs and VWSC responsible for this activity. PRA activities are also conducted during the preparation of VAPs wherein village interaction is done by ISA to seek information on infrastructure requirement, water source and water facility/tap connection at household level.

Further under the JJM, 'functionality assessment', a periodical sample survey is undertaken every year to assess the functionality of water supply schemes and household tap water connections. The assessment measures users' satisfaction with the tap water supply and the adequacy of quantity. The functionality assessment (February-April 2022) of JJM revealed that almost 92% and 87% of respondents were satisfied with the regularity and quality of water supply at the household level, respectively. The PforR program will also support the development of a water quality app, for citizens to monitor the water quality in their area.

RDWSD has a system for internal monitoring (weekly meetings and progress reports) of IEC activities. In addition, third party evaluation of IEC activities are also carried out. A recent study conducted by two agencies i.e., TERI and STEM with a sample size of 2000 Households in 10 districts revealed that almost 72% of households interviewed have had exposure to some form of IEC. House-visits and wall papers are the most recognizable platforms of IEC activities. The study also noted fatigue setting in IEC implementers who increasing feel that IEC and other behavioral change methods cannot change peoples' mindsets. Overall, the study demonstrated the need for continuous IEC and interactions with the stakeholders, using innovative and relevant medians for tangible results.

f. Social Inclusion: The JJM/Jaladhare mandates 100% coverage of all habitations. Once the FHTCs are installed in all households, a special gram sabha is undertaken, wherein all members of the community must participate to pass a resolution for certification of 'Har Ghar Jal' status.

   To instil a sense of ownership, JJM includes a one-time 10 percent community contribution towards the creation of in-village infrastructure, whereas villages having more than 50% SCs and/ or STs population/ or hilly and forested areas have to contribute only 5% of the capital cost. In Karnataka, the community contribution may range between INR 1000-1500/- per household. In some districts, 50% subsidies or option of paying in tranches has been provided to the ST/SC/BPL households. The practice may differ across the state as the contribution amount varies and is fixed at the discretion of the GPs, thereby providing additional flexibility.

g. Gender: Fewer women opt for technical positions such as EE, AE, and JE within this sector. For instance, there are 3 female AEs and 4 female JEs in the Rural Drinking Water and Sanitation Division, Bangalore Urban district. As per recent circular issued by the government of Karnataka, 33 percent of outsourced posts (such as Group D posts, data entry and housekeeping staff) will be reserved for women employees in all departments. A total of 26,144 watermen and 8,453 pump operators are currently hired by the GPs in the state. The PforR program proposes to support certified skill development trainings for women through National Skill Development Corporation (NSDC) for employment opportunities as plumbers, electrician, and water women.

   The JJM guideline also mandates the GP to identify, train and appoint 5 women from local community to conduct water quality tests using Field Testing Kit (FTKs)/ bacteriological vials. So far, FTK training of all women VWSC members in 12 to 13 districts have been completed. The JJM also mandates 50% reservation of women including 25% reservation of SC/ST in the VWSC to ensure that voice of the marginalized groups (SC/ST/women) is considered during design, implementation, and maintenance of the scheme. JJM Functionality Assessment (February- April 2022) for Karnataka reveals that 35% of villages in the state have a VWSC/ Paani Samiti, out of which 53% of the VWSC/Paani Samitis reported to have more than 50% female members.[24]

[24] https://jaljeevanmission.gov.in/sites/default/files/2022-10/FA-State-Report-Karnataka.pdf

5.3.3.3. Institutional Structure for Tank Rejuvenation

The tanks being considered for rejuvenation under the Program are minor irrigation tanks, with a command area of less than 40 hectares. These tanks are mostly under the jurisdiction of the GPs and are located in seven/eight water scarce districts[25] in Karnataka. PRED HQ has no role in the identification of tanks and sanctioning/approval of works above INR 1.0 -2.0 crore. Hence, the tank rejuvenation activity will be implemented by the PRED, headed by an Executive Engineer at the District level who will report to the CEO, ZP. At present there is no capacity to manage E&S issues at the district level. The assessment reveals the need to designate a focal person for environmental and social risk management at the district level to address, monitor and report on issues relating to encroachment, if any, compliance to labour provisions grievance redressal and citizen engagement.

5.3.3.4. Procedures and Practices for Tank Rejuvenation

The current practices and procedures followed for managing social risks during planning and construction for tank rejuvenation have been enumerated below.

a. Land and related Impacts: In case of rejuvenation of tanks, adjoining land will be required for bund/ waste weir and outlet repairs. Such land mostly belongs to the government or the GP. Most of these tanks are fenced to avoid encroachment and also to ensure that there is dumping of waste. Based on site visit, it was observed that these lands were mostly under cultivation. Such issues are dealt with as per the requirements of the Karnataka Land Revenue Act, 1964. According to the Act, show cause notice is given to the encroachers to file their objections within 15 days and if no objections are received, authorities are called upon to visit the spot, conduct a *Mahazar* (inspection) in the presence of the villagers, obtain their signatures and thereafter inform them of the need to evacuate the land. The tank is then handed over to the concerned department for rejuvenation works.

b. Labour Standard Compliance: Major works for tank rejuvenation such as bund repairing, waste weir and outlet repair, feeder channel repairs are carried out by the contractors. The PRED engineers (AE/JE) are responsible for supervising the contractor, however discussions with officials revealed that no monitoring is undertaken to assess whether the contractor's complying with labour laws and regulations.

c. Grievance Redressal Mechanism: There are no formal systems in place for grievance management during the construction phase. Complaints can be filed to the concerned GP or the CEO, ZP.

d. Citizen engagement: In some areas, management committees have been formed for tanks at the GP level. The committee consist of 8-10 members comprising GP president, ZP secretary/PDO and members benefitting from the tanks. However, this practice is not followed in most GPs as there are no clear mandates or guidelines on formation of these committees.

[25] The proposed districts are Bengaluru Rural, Bengaluru Urban, Bidar, Chikka Ballapura, Chitradurga, Kalaburgi, Kolar and Tumakuru.

Overall, the role of community level user groups in the tank rejuvenation activities is not clearly defined. Providing clarity on the roles of user groups is a priority issue. RDWSD shall support implementation of IEC and citizen engagement activities.

e. Gender: Out of the total 1536 filled sanctioned posts, PRED has 316 female working at the department in the circle/divisional/sub-divisional offices. A majority of them have been appointed as Junior Engineers (66), first division assistants (41), second division assistants (32) and peons (68).

6. Assessment of the Program against Core Principles of ESSA

This chapter presents an assessment of the Borrower systems against the Core Principles.

CORE PRINCIPLE #1

Program E&S management systems are designed to (a) promote E&S sustainability in the Program design; (b) avoid, minimize, or mitigate adverse impacts; and (c) promote informed decision-making relating to a Program's E&S effects.

Environment: The GoI/GoK regulations and statutory provisions - environmental, forests, pollution control, CRZ, groundwater, waste management, safety and labor related acts and regulations were assessed and found to be adequate to enable effective management of key environmental issues and implications. State level regulatory bodies such as the KSPCB, KCZMA, State Forest Department, State Groundwater Authority, etc. were found to be effective in discharging their respective regulatory functions.

At Program level, the assessment indicated that the Departmental as well as JJM systems are strong on technical aspects and are designed to deliver technically sound RWSS infrastructure, compliant with the broader applicable statutory requirements such as statutory permissions, etc. However, they do not have adequate provisions to individually assess and address scheme-specific EHS/OHS issues or undertake scheme-specific community consultations/disclosure. Similarly, provisions for preparing and maintaining environment-specific documentation such as screening checklists or ESMPs are also weak. The Program level systems for monitoring implementation progress are also weak on the aspect of Environmental monitoring. Further, currently the implementing agencies do not have dedicated manpower for leading the agenda on Environmental Management.

The Program Action Plan provided in the ESSA suggests slight modifications to the existing implementation procedures of the implementing agencies and additional trained manpower on Environment to address the observed weaknesses. Once the Program Action Plan is fully mainstreamed into the implementing agencies' work culture, the borrower systems would be consistent with this Core Principle.

Social: The program operates within an adequate legal and regulatory framework to mitigate, manage and monitor social risks and impact at the PforR level. While RDWSD in the recent past has carried out social assessments and developed management plans for activities financed by multi- and bilateral agencies in order to meet their E&S requirements. However, the same procedures are not applied in projects that are directly funded by the department. A recent state amendment to the RFCTLARR Act, 2013 exempts the concerned authority from undertaking a social impact assessment prior to land acquisition in water supply projects. While no changes are needed to the legal or regulatory framework, it is recommended that mechanisms such as social screening are embedded in the DPR preparation of SVS and in-village infrastructure works to avoid and mitigate any adverse social risks

and impacts. Such a process would also consider alternatives to minimize impacts by maximizing the usage of available government /panchayat land.

In line with the requirements of the Jaladhare/ JJM scheme, RDWSD already has management systems pertaining to citizen engagement, grievance redressal and social inclusion. Due to the program's geographic scope and emphasis on IEC and citizen engagement, it is recommended that adequate human and financial resources be allocated to implement these activities at a wider scale. The program does not have an in-house designated social specialist to manage social risks related to labour, community health and safety including land management. Also, there is a need to have standardized processes to monitor and report on these issues. While PMCs have been onboarded in some of the divisions, their job specification does not entail supervision and reporting on social aspects.

Tank rejuvenation works is executed by the PRED. However, no specific E&S screening is carried out during the DPR preparation. Moreover, the Department does not have designated staff at the district level for social risk management.

CORE PRINCIPLE #2

Program E&S management systems are designed to avoid, minimize, or mitigate adverse impacts on natural habitats and physical cultural resources resulting from the Program. Program activities that involve the significant conversion or degradation of critical natural habitats or critical physical cultural heritage are not eligible for PforR financing.

Environment: The ESSA exercise has indicated that the GoI / GoK's regulatory systems as well as JJM requirements pertaining to natural habitats, particularly forests and eco-sensitive areas are adequate to manage any ensuing adverse impacts. Mandatory requirements of prior Forest Clearance for use/diversion of forest land and for compensatory afforestation are in place. Cutting of trees is regulated and requires prior permission. Constructions in the proximity of cultural heritage sites such as protected monuments are also regulated and guidelines are in place for addressing chance find situations. Further, no significant conversion or degradation of critical natural habitats or physical cultural heritage is envisaged as most activities are expected to take place in pre-existing water supply schemes or tanks. RDWSD and PRED are fully aware and competent for addressing these regulatory requirements. Hence, conformance to this Core Principle is established. The prevailing Departmental Systems can be strengthened further by adding a procedure on Environmental Screening at DPR/PSR preparation stages.

Social: The assessment indicates that sufficient statutory and regulatory systems are in place to ensure that stakeholders are consulted or otherwise involved in the decisions that may affect the habitat value of their area. The willingness of community, reflected through Gram Sabha resolution and community contribution, will be the foremost criterion for planning of water supply system in villages.

CORE PRINCIPLE #3

Program E&S management systems are designed to protect public and worker safety against the potential risks associated with (a) the construction and/or operation of facilities or other operational practices under the Program; (b) exposure to toxic chemicals, hazardous wastes, and otherwise dangerous materials under the Program; and (c) reconstruction or rehabilitation of infrastructure located in areas prone to natural hazards.

Environment: Adherence to applicable public and worker safety standards is legally binding on all contractors, as enshrined in their contract documents, signed with the RDWSD/PRED. The Departmental personnel and field officers undertake periodic monitoring of compliance to contract conditions during construction. However, there is scope for further strengthening contract provisions by including scheme-specific or sub-project-specific ESMP requirements in the contracts which, amongst other things, also dwell in detail on site related, public related and worker related safety requirements. Also, the monitoring of observance of these standards can be strengthened by introducing a formal monitoring protocol, with in-built documentation and reporting requirements. Hiring of dedicated Environmental personnel (at state and district levels for RDWSD and at state level for PRED) for discharging focused monitoring related functions will facilitate further enhancement of compliance to relevant safety requirements and standards. This includes COVID-19 related protocols as well. The suggested provisions, as above, are included in the Program Action Plan. With the above in place, requirements of this Core Principle will be fully met.

Social: Karnataka has a comprehensive legal and regulatory framework on community and workers' health, safety and security. There are also legislations to prohibit child and forced labour, including protection against sexual harassment at the workplace. Some of these provisions are vaguely articulated in the bid document/ contracts for works awarded to EPC contractors.

The JJM/Jaladhare program supports development of new and existing single-village schemes (SVS) with metered household connections, and in-village facilities (such as distribution systems, additional storage reservoirs). For rejuvenation of tanks, works such as bund repairing, waste weir and outlet repair, feeder channel repairs are undertaken by the contractors. Such activities are likely to have issues associated with public and worker safety during construction, however no monitoring systems are in place to ensure adherence to labour laws and regulations at the sites. The PforR program will focus on setting up a monitoring system and developing the capacity of the RDWSD and PRED field staff (EE, AE and JE) to supervise and report on community and workers' welfare, health, and safety.

To address any grievances related to workplace harassment, RDWSD and PRED have setup an Internal Complaints Committee as per the requirements of the *Sexual Harassment at the Workplace (prevention, prohibition and redressal) Act, 2013*.

CORE PRINCIPLE #4

Land acquisition and loss of access to natural resources are managed in a way that avoids or minimizes displacement, and affected people are assisted in improving, or at least restoring, their livelihoods and living standards

Environment: Not Applicable

Social: The PforR program will not finance new MVS which would require large tracts of land. The JJM guideline indicates that for in-village water work, land should be provided by the Gram Panchayat itself. The assessment revealed that most often, land taken for SVS is either panchayat or government land. In case of non-availability of GP and government land, the state government through the Revenue Department has been acquiring private land using the direct purchase policy (willing buyer willing seller), and voluntary land donation process. Whereas existing Right of Way (RoW) are mostly used for laying of pipelines. To an extent possible, government or revenue land which is free from encumbrances will be utilized for construction of new SVS and in-village infrastructure under the program. **The program would not involve any construction where private land acquisition is required or any land for which clear title is not available with the government.** Any minor land taking for siting of OHTs, etc. shall be done through donation by individuals/communities and Block office shall ascertain voluntariness and also that it does not lead to significant adverse impacts on the livelihood of the household.

In case of rejuvenation of tanks, adjoining land will be required for bund/ waste weir and outlet repairs. While most tanks are fenced, the assessment noted possible encroachment of informal occupants near the tanks, which is mostly dealt with as per the requirements of the *Karnataka Land Revenue Act, 1964*. According to this procedure, show cause notice is given calling upon the encroachers to file their objections within 15 days and if no objections are received, authorities are called upon to visit the spot, conduct a *Mahazar* in the presence of the villagers, obtain their signatures and thereafter initiate the process of evacuation. Program would not support any activities that would involve the use of forced eviction of informal occupants/land users.

CORE PRINCIPLE #5

Program E&S systems give due consideration to the cultural appropriateness of, and equitable access to, Program benefits, giving special attention to the rights and interests of Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities, and to the needs or concerns of vulnerable groups

As the Program area covers the entire state of Karnataka, infrastructure works will be carried out in tribal and SC dominated areas as well. There are built-in safeguards against exclusion of vulnerable groups within the program. As per the requirements of the JJM/*Jaladhare*, the Program will ensure that ST/SC communities are well represented (30%) in the VWSC. Moreover, the scheme mandates the need for undertaking special gram sabha, wherein all members of the community must participate to pass a resolution for certification of 'Har Ghar Jal' status once the FHTCs are installed in all households (100% coverage). The installation of household meter also provides direct evidence of equity in the delivery of rural water services, as the meter serves as proof as to whether water was delivered to marginalized households.

CORE PRINCIPLE #6

Avoid exacerbating social conflict, especially in fragile states, post-conflict areas, or areas subject to territorial disputes.

Not Applicable

7. Recommendations and Program Action Plan

This chapter includes the findings and recommendations emerging from the analysis presented in the earlier chapters. As part of the findings, the Program exclusions and highlights both on environmental and social issues have been included. And, as part of the recommendations, the ESSA inputs to the Program Action Plan and to the Implementation Support Plan covering both environmental and social issues have been included.

7.1. Findings

7.1.1. Program Exclusions

Environment

The Bank's Program was reviewed to ensure that the activities do not include those not eligible for PforR financing. It was confirmed that:

- No conversion or degradation of critical natural habitats or critical cultural heritage sites
- No air, water, or soil contamination leading to significant adverse impacts on the health or safety of individuals, communities, or ecosystems
- No workplace conditions that expose workers to significant risks to health and personal safety
- No adverse E&S impacts covering large geographical areas, including transboundary impacts, or global impacts such as greenhouse gas (GHG) emissions
- No significant cumulative, induced, or indirect impacts

There are no potentially significant, adverse environmental impacts in the Program design. During the implementation, it will be required to ensure that all such activities remain excluded.

Social

The Bank's Program was reviewed to ensure that activities with certain characteristics are not eligible for inclusion in the PforR operation. Based on the assessment, it was confirmed that:

- No land acquisition and/or resettlement of a scale or nature that will have significant adverse impacts on affected people, or the use of forced evictions. The program would not involve any construction where private land acquisition is required or any land for which clear title is not available with the government.
- No large-scale changes in land use or access to land and/or natural resources;
- No activities that involve the use of forced or child labor;
- No marginalization of, or conflict within or among, social groups;

- No activities that would have adverse impacts on land and natural resources subject to traditional ownership or under customary use or occupation; or cause relocation of Indigenous People or have significant impact on them.

There are no potentially significant, adverse social impacts in the Program design. During the implementation, it will be required to ensure that all such activities remain excluded.

Refer to Annex 6 on brief examination of the proposed project investments alongside the Bank's exclusion criteria.

7.1.2. Highlights- Findings

Some of the key highlights have been summarized below:

Environment

- The legal framework is found adequate to manage the environmental effects of the program activities. Additionally, state-level regulatory systems pertaining environmental aspects are well streamlined.

- The possible negative environmental impacts include low borewell yield, drying up of borewells, poor groundwater quality, construction activity related impacts, site/worker/community safety issues, water wastage during bulk supply and distribution, construction/excavation debris/waste disposal, impacts on ecologically and/or culturally sensitive areas/sites/structures, inadequate tank catchment protection, etc.

- The environmental impacts associated with the Bank's Program are localized, minimal and reversible through appropriate safeguard measures. Hence, the environmental risks are moderate. Some issues of concern such as groundwater stress and quality have been already addressed by the RDWSD's latest policies and actions such as connecting habitations to MVS, based on surface water sources.

- Current RDWSD and PRED procedures do not have adequate provisions to individually assess and address scheme specific EHS/OHS issues. Consequently, capacities of both implementing agencies on the above counts need to be enhanced considerably. This can be achieved by (a) adding specialized staff and resources for environmental risk management and (b) modifying prevailing departmental sub-project approval and implementation procedures to feature additional procedural steps on aspects like environmental screening, mitigation planning, monitoring, compliance verification and periodic performance review.

- While RDWSD and PRED tendering and contracting documents do require contractors to broadly abide by all applicable environmental laws, regulations and EHS/OHS norms, they do not explicitly spell out specific requirements/terms and conditions in this regard. Also, since environmental due-diligence related documents such as environmental screening checklist, ESMP, EHS/OHS

monitoring protocol, etc. are not currently part of the departmental systems, it is difficult for the departments to enforce such conditions on the contractors. Hence, it becomes imperative to modify and strengthen relevant departmental documentation pertaining to tendering and contracting from the environmental standpoint, in alignment with the revised/strengthened departmental systems and procedures for scheme planning, approval, construction and commissioning.

- During construction phase, RDWSD and PRED do not have a well-defined protocol for monitoring and reporting on ESMP compliances. In light of this, it is recommended that a suitable ESMP/construction phase monitoring protocol be designed and adopted by the respective departments to enable effective monitoring of ESMP compliance as well as the contractor's adherence to applicable EHS/OHS norms in a standardized manner.

- Once the works completed, revised departmental systems and procedures must also have a component for verifying satisfactory inclusion of EHS features in the completed infrastructure.

- Currently, both implementing agencies do not have dedicated manpower for leading and driving the agenda on Environmental Management. It is recommended that appropriate qualified manpower on Environment is hired by the RDWSD for posting in its Project Management Units to be established at the State and District levels. It was agreed that the same personnel will support environment management aspects pertaining to tank rejuvenation activities to be implemented by PRED in selected districts. The PRED will issue a suitable order/circular in this respect.

- Owing to low emphasis on environmental management aspects in the borrower systems as of now, no periodic reviews are undertaken to assess the effectiveness of environmental regime of the departments. It is therefore recommended that a third-party Environmental Audit be undertaken on the project twice during the implementation period: the first one at mid-term stage and the second one just before project closure. These Environmental Audits will assess the extent to which the Environmental due-diligence procedures in the project have been effectively applied and implemented.

Social

- Overall, the ESSA found that the social 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 Jal Jeevan Mission, which emphasizes on participation, transparency and inclusion through IEC, PRA, social audit and other support activities.

- Currently, social risks screening prior to commencement of infrastructural works are not being carried out under the program. While development of village action plans, preparation of DPRs provide opportunities to undertake E&S assessments/screening, this seems to be a clear gap in the current system.

- Institutional capacity of PRED for management of social risks at the ground level needs to be strengthened. The RDWSD has implemented several externally aided projects and is familiar with the Bank's requirements to manage social risks. However, the department does not have in-house staff to manage social risks related to labour, community health and safety, land and livelihood. It is recommended that a social specialist at the PMU is designated to manage and build capacity of staff to monitor and report on social risks and impacts.

- Clauses on labour standard compliance are integrated in the contractors' contracts/bid documents, however there is no provisioning for site specific E&S management plans, nor are health, safety, and security of workers monitored at the site.

- The program has a robust system for citizen engagement, grievance redressal, and social inclusion. These mechanisms however require scaling up through resource allocations (financial and manpower) to ensure such activities meet the intended targets and contribute to improved development outcomes. As per the requirements of JJM, social audits must be carried out, which have not yet been initiated.

- The GRM of RDWSD needs to be strengthened. External monitoring, extensive public outreach and awareness, addressing complaints beyond O&M, and strengthening systems of documentation and reporting on complaints received directly- are some of the aspects to be considered. *Parihara*, RDWSD's grievance portal would be extended to PRED to address any grievances related to tank rejuvenation.

7.2. Inputs to the Program Action Plan

The following table includes the ESSA inputs into the overall Program Action Plan:

Action Description	DLI#	Responsibility	Timing		Completion Measurement
Hire E&S staff in PMU RDWSD as per agreed institutional structure Social Specialist: One at State level Environmental Specialists: One each at State and District levels	DLI 2	RDWSD	Other	Before effectiveness	Staff contracted and joined duties.
Develop and adopt systems, procedures and tools that: • Help identify and manage E&S impacts of all activities under Bank program	DLI 2	RDWSD and PRED	Due Date	01-Jun-2023	• Revised E&S screening, mitigation planning and monitoring procedures adopted and applied across all proposed investments under Bank program.

Action Description	DLI#	Responsibility	Timing		Completion Measurement
• Facilitate effective monitoring and reporting of E&S mitigation actions taken • Enable documentation of all E&S related due-diligence actions, and • Enable periodic review of effectiveness (progress reports, audits) of the above, including tracking of extent to which vulnerable sections are able to access benefits under Jaladhare					• All E&S due-diligence actions documented and corresponding records maintained. • Social Audit manual, bi-annual social audit reports disclosed. • Mid-term and End-term Environmental Audit Reports. • Quarterly E&S compliance reports by RDWSD and PRED field staff.
Review and strengthen E&S provisions in tendering procedures, bid documents, work orders, contract agreements, etc. pertaining to works to be awarded under the Bank Program	DLI 2	RDWSD, PRED	Due Date	01-Jun-2023	• Standard bid / contract documents include environmental and social provisions as specified in ESSA • Tendering and bid evaluation procedures modified as per ESSA recommendations and adopted
Enhance capacity of RDWSD and PRED staff, including PMU/District (DTSU) staff, contractors, ISA, DWSM, VWSC, GPs and other implementing entities on E&S risks management and application of revised implementation procedures.	DLI 2	RDWSD, PRED	Due Date	01-Jun-2023	Capacity Building Plan, Training modules, Training Calendar, evidence of training conducted, attendance sheets and data on number of persons trained.
Strengthen Grievance Redressal Mechanism in terms of capacity, outreach and impact	DLI 2	RDWSD/PRED	Due Date	01-Jun-2023	Manpower and additional financial resources allocated for GRM, external evaluation reports of GRM disclosed.

7.3. ESSA Inputs to the Implementation Support Plan

Environment

The Bank's implementation support will focus on building the environmental management capacity of RDWSD and PRED. This would include the following:

(a) Support to the PMU and PIU in preparing ToRs for hiring appropriate E&S specialist manpower as specified in the ESSA

(b) Support and guidance to both implementing agencies in incorporating appropriate modifications to their systems and procedures so as to enhance their capacity and effectiveness on Environment Management. This will include the following:
   - Adding procedural steps such as environmental screening, ESMP preparation, monitoring, documentation, etc.
   - Developing and preparing appropriate tools/formats for effectively undertaking environmental screening, ESMP preparation, monitoring and associated functions
   - Developing an institutional structure/plan for more effectively discharging environment management related functions
   - Developing a environmental capacity building plan and training calendar

(c) Support to the PMU and PIU in orientation and training on Environment Management of:
   - Newly appointed project E&S staff
   - Departmental staff (engineering as well as others)
   - Contractors (senior management)
   - Contractors (site supervisors and other site staff)

(d) Support to the PMU and PIU on modifying tendering and contracting procedures as well as associated documents

(e) Provide guidance on environmental monitoring, record keeping and responding to emerging issues

(f) Guiding the two implementing agencies in periodically reviewing environmental performance of the project and preparing progress reports

(g) Assisting the PMU and/or PIU in preparing ToRs for third party environmental audits and any guidance they may require in managing these audits.

Social

The Bank's implementation support should focus on helping the client achieve the program results and DLIs, by strengthening systems and procedures related to social risks management. The specific focus should be on (a) designating a social specialist in RDWSD (state level) and E&S specialist in PRED (district level) to address the program requirements; (b) augmenting capacity of staff on social risk management through trainings (see Annex 8); (c) adopting social risk screening procedures to exclude activities involving adverse impacts such as land acquisition, child labour, etc.; (e) streamlining the monitoring and reporting process on social issues such as land procurement, community and occupational health and safety during civil works, beneficiary engagement, social inclusion and grievance management; and lastly (d) strengthening beneficiary engagement through social audits for RDWSD and GRM for PRED.

8. Consultation and Disclosure

8.1. Consultations during the ESSA

To inform the ESSA, community and stakeholder consultations were carried out wherein the WB team visited a total of six habitations[26] in two districts (Chamrajnagar and Belgavi) in Karnataka. During the visit, the team interacted with elected GP representatives/PDOs, VWSCs and community members/ citizens, particularly women and other socially vulnerable groups (ST/SC/BPL). Discussions were also held with technical staff of RDWSD and PRED at the headquarter and the field level (EE, AE and JE), Parihara and IEC coordinator, ISA/ISRA representatives, and contractors (engaged for construction and maintenance of SVS and in-village infrastructures). The questionnaire on E&S system assessment is given in Annex 3. Some of the key highlights of the discussion have been summarized below:

1.	*RDWSD officials*	Most land identified for SVS is in panchayat and revenue land (*gauthan or grazing land*). There is no E&S assessment carried out during the PSR and DPR stage. Although, forest land is identified for any clearances. Most Bid document includes provision for compliance of labour laws; however, no E&S monitoring of these compliances are carried out during the construction phase. Executive Engineers, RDWSD and PRED officials are also a part of the VAP preparation. As per the field Engineers, complaints come to them from the community directly. Not through the Parihara.
2.	*Women Users*	Respondents stated that household connections have reduced drudgery- that they no longer have to travel long distances to bring water home. Some women (particularly the elderly population) respondents have inhibitions using the water connection for cooking and drinking, as they feel the water is contaminated. Some of the Anganwadi workers and Asha workers noted reduction in water borne diseases in their village. Educational centres, anganwadi and religious places have a separate water connection under JJM. Most women prefer approaching the water man and PDO to address disputes related to irregular water supply and water quality. Timing of water supply varies in each village. However, respondents stated that sufficient notice is provided to the villagers in case of disruption of supply.
3.	*Users in ST predominated areas.*	Some of the ST respondents stated that they can pay the community contribution, which is INR 800 to 1000/- per household- depending on the GP population. Those who are unable to pay the amount, have either been exempted or are paying in tranches. Few districts like Chamrajnagar also provides 50% subsidies to ST/SC households.

[26] Gunjenatti, Allehol, Ummathuru, Desavally, Bandigere, and Rangasandra.

		Many raised concern regarding installation of volumetric meters, as most ST/SC households cannot afford to pay the tariffs. They also stated that they cannot check water consumption through the meter, since most of them are illiterate. Some of the households raised concerns related to open drains and grey water being discharged into surrounding areas.
4.	*PARIHARA representatives*	Discussed the staff capacity, complaint redressal processes, roles and responsibilities of the Parihara team. In addition, the respondent informed that: Most complaints on water supply were related to non-availability of water and maintenance issues. Every month a customer satisfaction report is prepared based on the customer feedback sought from each caller. Team receives approx. 3000 calls per month (100 calls per day- 20 to 30 complaints and the remaining are enquiries). Currently, Parihara only has one shift and is operational from 9.00 am to 6.00 pm.
5.	*ISA/ ISRA representatives*	Discussed the staff capacity, roles and responsibilities of ISA and ISRA in detail. In some districts, two or more ISAs are engaged to manage the workload and increasing no. of habitations to be covered. Various forms of IEC activities (such as street play, workshop PDO and line departments, tank rejuvenation- cleanliness drive, essay writing for school children, painting competition) are carried out on a regular basis. ISAs are also responsible for coordination with all line departments, preparation of VAP and mobilization for community contribution. ISRA carry out FTK training, PRA member training and VWSC training, wall painting- grey water management and auto announcements. Action plans are made after hiring the ISA/ISRA agency. Payment is disbursed based on the activities achieved. Salary and travel allowances are provided separately.
6.	*VWSC representatives/GP*	Most VWSC members interviewed, particularly women were not fully aware of their roles and responsibilities under the JJM/Jaladhare. Most of the PDOs knew about Parihara. Many suggested that information related to Parihara be widely distributed amongst the community.
7.	*PRED officials*	In cases of encroachment around the tank, a letter is written by PRED to the Block Office for evicting the encroacher. A notice of one month is given to the encroachers for eviction. While some may be allowed to harvest the crops, no compensation is provided to individuals farming in the area.

8.2. Stakeholder Workshop on draft ESSA

The stakeholder workshop on draft ESSA was organised on December 6th, 2022 with 80 participants including representatives from various departments (RDWSD, PRED, Health, Minor Irrigation, Forest. Etc.), district administration, PRIs, grassroots workers (Anganwadi and ASHA), civil society organisations and academia. The main points that emerged from the stakeholder workshop included the following:

- Need for closing contaminated/defunct borewells, and closely monitoring existing assets for contamination. Emphasis on sourcing of water from MVS, to minimize use of borewells.
- Continuation of RO plants only in areas where water quality is affected, as most households will be provided with Functional Household Tap Connection.
- Importance of replenishment of borewells in water depleted areas.
- Extensive behavioral change campaigns needed to build awareness and reduce the use of borewells for drinking purposes.
- Capacity building of rural staff and VWSC members on FTK testing is much needed, in order to identify and address any water contamination issues on time.
- Need for strengthening and building capacity of VWSC members on their roles and responsibilities, for sustainability of the schemes in the long run.
- Need for advice and guidance on the social audit procedures under the Jal Jeevan Mission.
- Need for increasing awareness on GRM – Parihara among the community members, including other departments and agencies.
- Collaboration with other agencies and departments, such as the health department on IEC and training activities related to benefits of drinking water, health impacts and sanitation.
- Priority should be given to the management and monitoring of drinking water assets in an environmentally and socially sustainable manner.
- Need for fund allocation and increasing IEC, training and capacity building activities for staff and VWSC members on environmental and social risk management.

8.3. Disclosure requirements

A stakeholder workshop was held on December 6th 2022, to disclose the draft ESSA. The executive summary of the draft ESSA was translated to Kannada and shared with the participants prior to the workshop. It was organized by Bank with facilitation support by RDWSD and PRED. Comments and suggestions were sought during the state disclosure workshop. The feedback obtained during the workshop was used to further refine and finalize the ESSA as well as feed into the project design. Once final, the ESSA will be disclosed on RDWSD and PRED website and also the World Bank website.

ANNEXURES

Annex-1: Baseline Information on Environment- Karnataka

Karnataka – District-wise listing of area, forest area and population

No	District	Headquarters	Area (km^2)	Forest Area (km^2)	Population		
					Male	Female	Total
1.	Bagalkot	Bagalkot	6,575	252.97	9,52,902	9,37,924	18,90,826
2.	Bangalore Urban	Bangalore	2,190	287.43	50,25,498	45,63,412	95,88,910
3.	Bangalore Rural	Bangalore	2,259	162.75	5,07,514	4,79,743	9,87,257
4.	Belagavi	Belagavi	13,415	1,141.60	24,27,104	23,51,335	47,78,439
5.	Bellary	Bellary	4,252	739.22	12,80,402	12,51,981	25,32,383
6.	Bidar	Bidar	5,448	88.42	8,70,850	8,29,168	17,00,018
7.	Vijayapura	Vijayapura	10,498	25.05	11,12,953	1,06,21,49	21,75,102
8.	Chamarajanagara	Chamarajanagara	5,101	2,724.19	5,13,359	5,07,603	10,20,962
9.	Chikballapura	Chikballapur	4,524	269.70	6,37,504	6,16,873	12,54,377
10.	Chikmagalur	Chikmagalur	7,201	3,951.78	5,67,483	5,70,270	11,37,753
11.	Chitradurga	Chitradurga	8,440	576.61	8,43,411	8,16,967	16,60,378
12.	Dakshina Kannada	Mangalore	4,560	3,064.66	10,32,577	10,51,048	20,83,625
13.	Davanagere	Davanagere	4,460	709.57	9,89,602	9,57,303	19,46,905
14.	Dharwad	Dharwad	4,260	374.42	9,39,127	9,07,866	18,46,993
15.	Gadag	Gadag	4,656	141.62	5,38,477	5,26,758	10,65,235
16.	Gulbarga	Gulbarga	10,95	195.05	13,07,061	12,57,831	25,64,892
17.	Hassan	Hassan	6,814	1,478.44	8,85,807	8,90,414	17,76,221
18.	Haveri	Haveri	4,823	343.25	8,19,295	7,79,211	15,98,506
19.	Kodagu	Madikeri	4,102	3,263.38	2,74,725	2,80,037	5,54,762
20.	Kolar	Kolar	3,969	381.39	7,79,401	7,60,830	15,40,231
21.	Koppal	Koppal	7,189	33.32	7,01,479	6,89,813	13,91,292
22.	Mandya	Mandya	4,961	499.32	9,09,441	8,99,239	18,08,680
23.	Mysore	Mysore	6,854	1,052.83	15,11,206	14,83,538	29,94,744
24.	Raichur	Raichur	8,440	44.23	9,66,493	9,58,280	19,24,773
25.	Ramanagara	Ramanagara	3,556	664.69	5,48,060	5,34,679	10,82,739
26.	Shimoga	Shimoga	8,477	4,270.78	8,79,817	8,75,695	17,55,512
27.	Tumkur	Tumkur	10,597	1,284.04	13,54,770	13,26,679	26,81,449
28.	Udupi	Udupi	3,880	2,283.38	5,62,896	6,15,012	11,77,908
29.	Uttara Kannada	Karwar	10,291	8,123.75	7,27,424	7,09,423	14,36,847
30.	Vijayanagara	Hospet	5,644	Included in Bellary	Included in Bellary	Included in Bellary	Included in Bellary
31.	Yadgir	Yadgir	5,234	147.64	5,91,104	5,81,881	11,72,985
	Total		**1,82,775**	**38,575.48**	**3,10,57,742**	**3,00,72,962**	**6,11,30,704**

Source 2011 Census, Karnataka Forest Department

SN	Name of River	Stretches of rivers having BOD of more than 3 mg/dl	BOD Range (mg/l)
1.	Bhadra	Downstream of Bhadravathi to confluence with Tunga	20-30
2.	Tunga	Downstream of Shimoga	10-20
3.	Tungabhadra	Harihar downstream to Haraeahalli Bridge & Ullanur	10-20
4.	Laxmantirtha	Downstream of Hunsur Town	10-20
5.	Kali	Along Dandeli Town	6-10
6.	Krishna	Upstream Of Ugarkhurd Barrage	6-10
7.	Tungabhadra	Ullanur downstream	3-6
8.	Hundri	Joharpur downstream	3-6
9.	Kundu	Nandayal downstream	3-6
10.	Arkavati	Downstream of Kanakapur	3-6
11.	Malprabha	Downstream of Khanapur	3-6

Karnataka: List of overexploited blocks (encompassing 13 districts)

DISTRICT	TALUK	DISTRICT	TALUK	DISTRICT	TALUK
Bagalkot	Badami	Chamrajanagara	Chamrajnagara	Gadag	Ron
Bagalkot	Guledgudda	Chamrajanagara	Gundlupet	Gadag	Gajendragad
Bagalkot	Bagalkote	Chikballapur	Bagepalli	Hassan	Arsikere
Bangalore Rural	Devenhalli	Chikballapur	Chikballapur	Kolar	Bangarpet
Bangalore Rural	Dodaballapur	Chikballapur	Chintamani	Kolar	K.g.f
Bangalore Rural	Hoskote	Chikballapur	Gauribidalur	Kolar	Kolar
Bangalore Rural	Nelamangala	Chikballapur	Gudibanda	Kolar	Malur
Bangalore Urban	Anekal	Chikballapur	Sidlaghata	Kolar	Mulbagal
Bangalore Urban	Bengaluru east	Chikkamagalur	Ajjampura	Kolar	Srinivaspur
Bangalore Urban	Bengaluru north	Chikkamagalur	Kadur	Koppal	Kukanuru
Bangalore Urban	Yelahanka	Chitradurga	Challakere	Tumakuru	Chikkanayakanahalli
Bangalore Urban	Bengaluru south	Chitradurga	Chitradurga	Tumakuru	Koratagere
Belagavi	Kagavada	Chitradurga	Hiriyur	Tumakuru	Madhugiri
Belagavi	Bailahongal	Chitradurga	Holalkere	Tumakuru	Sira
Belagavi	Ramdurg	Chitradurga	Hosadurga	Tumakuru	Tiptur
Belagavi	Saundatti	Davanagere	Harapanahalli	Tumakuru	Tumakuru
Bellary	H. B. Halli	Davangere	Channagiri		
Bellary	Kotturu	Davangere	Jagalur		

Ground Water Quality (contamination) issues in Karnataka State (source: CGWB)

SN	District	**Salinity** (Electrical Conductivity above 3000 micro mhos/cm)	**Fluoride** (above 1.5 mg/l)	**Nitrate** (above 45 mg/l)	**Arsenic** (above 0.01 mg/l)	**Iron** (above 1mg/l)	**Heavy metals** Lead above 0.01 mg/l Cadmium above 0.003 mg/l Chromium (above 0.05 mg/l)
1.	Bagalkot	✓	✓	✓	-	✓	-
2.	Ballari (Bellary)	✓	-	✓	-	✓	-
3.	Belagavi (Belgaum)	✓	-	✓	-	✓	-
4.	Bengaluru Rural	✓	✓	✓	-	✓	-
5.	Bengaluru Urban	✓	✓	✓	-		-
6.	Bidar	-	✓	✓	-	-	-
7.	Chamarajanagar	✓	✓	✓	-	-	-
8.	Chikballapur	✓	✓	✓	-	-	-
9.	Chikkamagaluru	✓	✓	✓	-	✓	-
10.	Chitradurga	✓	✓	✓	-	✓	-
11.	Dakshina Kannada	✓	✓	✓	-	-	-
12.	Davangere	✓	✓	✓	-	✓	-
13.	Dharwad	✓	✓	-	-	-	-
14.	Gadag	✓	✓	-	-	-	-
15.	Hassan	✓	✓	✓	-	✓	-
16.	Haveri	✓	✓	✓	-	✓	-
17.	Kalaburagi	✓	✓	✓	-	✓	-
18.	Kodagu	✓	✓	✓	-	✓	-
19.	Kolar	✓	✓	✓	-	✓	-
20.	Koppal	✓	✓	✓	-	✓	-
21.	Mandya	✓	✓	✓	-	✓	-
22.	Mysuru (Mysore)	✓	✓	✓	-	✓	-
23.	Raichur	✓	✓	✓	✓	✓	-
24.	Ramanagara	✓	✓	✓	-	-	-
25.	Shivamogga	✓	✓	✓	-	✓	-
26.	Tumakuru (Tumkur)	✓	✓	✓	-	✓	-
27.	Udupi	✓	✓	✓	-	✓	-
28.	Uttara Kannada	✓	✓	-	-	✓	-
29.	Vijayapura (Bijapur)	✓	✓	✓	-	-	-
30.	Vijayanagara	✓	✓	-	-	-	-
31.	Yadgir	✓	✓	✓	✓	-	-

Annexure 2- References

1. *Jal Jeevan Mission Guidelines*
2. *Guidelines on Policies, Regulations and Bye-laws related to SBM*
3. *Program-for-Results Financing Environmental and Social Systems Assessment Bank Guidance, July 2019*
4. *National Family and Health Survey- 5 and National Family and Health Survey- 5*
5. *Census 2011*
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7. *State Laws and Policies: Karnataka Gram Swaraj and Panchayat Raj Act, 1993; Karnataka State Rural Sanitation Strategy; Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement (Karnataka Amendment) Act, 2019; Land Purchase through Negotiated Settlement (Government Order no: RD 54 LAQ 2014); Karnataka Land Revenue Act, 1964; and The Karnataka Scheduled Caste, Scheduled Tribes and Other Backward Classes (Reservation of Appointments, etc.) Act, 1990. Karnataka Ground Water (Regulation and Control of Development and Management) Act, 2011, Karnataka Ground Water (Regulation and Control of Development and Management) Rules, 2012, The Karnataka Groundwater (Regulation for Protection of Sources of Drinking Water) Act, 1999, The Karnataka Forest Act, 1963, Karnataka Forest Rules, 1969, The Karnataka Preservation of Trees Act 1976, Karnataka State Policy on Integrated Waste Management, The Karnataka Panchayat Raj (Management of Solid Waste) Model Bye-laws, 2020, Karnataka Ancient and Historical Monuments and Archaeological Sites and Remains Act, 1961, Karnataka Ancient and Historical Monuments and Archaeological Sites and Remains Rules, 1966, and Karnataka Act No. 50 Of 2020: Lakkundi Heritage Area Development Authority Act, 2020*
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9. *Climate Risk Country Profile: India (2021): The World Bank Group*
10. *Functionality Assessment of Household Tap Connection under National Jal Jeevan Mission – 2022, State Report- Karnataka (February to April 2022)*
11. *G.P Soni, Myths and Realities of desilting Lake Conservation, 2010*
12. *Leo Heller, Affordability and Human Rights to Water and Sanitation, A/HRC/30/39*
13. *TERI STEM, Periodic Evaluation Studies on Implementation of SBM-G and JJM in Karnataka 2022- Volume 1, 2 and 3*
14. *Sample Bid Documents*
15. *Sample ToR and contract document for ISA and ISRA*
16. *ToR for outsourcing Parihara*
17. *Presentations and details provided by the RDWSD*
18. *Websites of RDWSD, PRED and other relevant Departments and Ministries*
19. *Resettlement Policy Framework, and Social Management Framework from externally aided projects of RDWSD (NABARD, AIIB)*

Annexure 3 – Environmental and Social Systems Assessment Checklist

Discussions with RDWSD officials at the state and district level

1. Current institutional arrangement for overall implementation and in particular for E&S management. Any financial resources allocated for E&S management.
2. While deciding on in-village water supply system and its location under the JJM, are E&S screening or assessments carried out? Do screening procedures include opportunities for stakeholder involvement?
3. Are strategic, technical, and site-selection alternatives considered to avoid or minimize risks and impacts?

Land Requirement:

1. What is the quantum of land likely to be required for construction of SVS?
2. What is the current system of identification and procurement of land (government, private acquisition, direct purchase, donation)? Share notifications, if any.
3. Does land procurement process involve appropriate requirements for informed participation of affected people?
4. Does the State Action Plan include the schedule and cost along with timelines for land acquisition under JJM?

Labour:

1. What are the contract clauses currently with respect to aspects such as occupational, health and safety, labour conditions and welfare?
2. What are the prevalent OHS issues faced during construction and O&M? How are these OHS issues addressed and monitored on site?
3. What measures are taken to restore damages caused by laying of pipelines?

Grievance Redressal Mechanism (GRM)

4. Types of grievances received by Parihara.
5. Does it accept and process grievances relating to E&S management issues?
6. Are there established procedures for responding to grievances received? if yes, share SOP. What type of records are maintained?
7. Uptake Channels: How are grievances received?
8. Processing Systems: How are grievances categorized, logged and prioritized? Who are they referred to? How are they addressed?
9. Acknowledgement and Follow-up: Are complainants provided receipt, how are they provided progress updates?
10. Timeframes and Service Standards: Standard timelines for resolution and timeframes for acknowledgement?
11. Appeal: How are grievances escalated to higher levels?
12. Communication Initiatives: How are stakeholders informed about the mechanism?
13. Does the system include mechanisms for independent oversight and monitoring where appropriate?
14. Does the department conduct "internal monitoring"? If conducted, provide details on frequency, collation of findings, follow up actions taken.

Awareness Generation

- What mechanisms are in place to provide information on supply, supply disruptions to all users, and other behavioral change advisories to the public?
- What other themes are covered during IEC?
- Any mechanism to assess whether the shared information has been received, understood?
- Special initiatives if any to disseminate information to vulnerable and disadvantaged groups?
- Any small amount given towards awareness generation in case of tank rejuvenation and grey water management activities?

Social Inclusion:

- Representation of women in staffing within the RDWSD at the state, district level including field level workforce, VWSC, among others?

- Subsidies or any special programs for poor, ST/SC/WHH, single women households and other vulnerable groups (charges, connection subsidy, public stand-post). (e.g. one time connection charges paid in installments- how many and to be within what duration?)

Citizen engagement

- At what stages of the scheme cycle are community participation and feedback sought?
- Who prepares the DPRs? Any consultative process being undertaken during the design phase? How are communities/gram sabha members being involved? Any other departments who would be involved/or are depended upon during this stage?
- What steps have been taken to initiate the social audit process? Have social audit committees been formed?
- Have any awareness creation and capacity building activities on social audit been carried out?
- What other mechanisms have been adopted to seek feedback from key stakeholders?
- Do consultations include representation of vulnerable groups (BPL/SC/ST/WHH)? What is their level and quality of participation in these consultations?

Policies:

- Any relevant Act and Bye Laws, policies, vision, mission, rules and procedures applicable to the operation of water supply and sanitation
- Are there any penal provisions available for non-compliance/ misuse/ causing disturbance to water assets?
- Presence of sexual harassment prevention measures (e.g., Internal Complaints Committee) within the department and contractual firms (ISA, ISRA) as per the Sexual Harassment Act?
- Any Environmental and Social Policies of RDWSD – Details of any previous externally aided projects of RDWSD?

Consultation with Health Department

- What are the impacts of water supply on public health?
- List of advisories issued by health department related to water usage (e.g. advisories to the public on boiling water for at least 20 minutes prior to consumption, filtration techniques) How do they advertise these and reach out? What other measures?
- Comment on the health implication of untreated sources?
- Overview of medical expenses in treating water borne ailments? Any data to show the type of ailments and % of those affected and cost of treatment.
- Any drop out incidents from school (especially of girls) due to water collection from far away locations
- Comment on water borne diseases, particularly during rains, loss of wages and loss of school, etc.
- Institutional mechanism to handle complaints, if any such complaints are received

Consultation with Women and Child Department

- What is the department's main role and how do they coordinate with Water Supply department?
- What are the main concerns relating to Water Supply and Sanitation (WSS) on women and children, particularly on health? Any data?
- Is there any special provision/scheme available to deal with this (such as WASH campaign, etc.)
- Does the department organize their own programs/campaigns?

Discussion with domestic and non-domestic users/institutional users

- Details on previous situation prior to the implementation of JJM
- Sources of supply to meet the service delivery requirement
- Ease of obtaining connection
- Supply hours
- Community contribution paid towards construction/installation of pipelines?
- Connection/ user charges and frequency?
- Are there any disputes due to water scarcity, water level, discharge, water quality, etc.?
- Views and perception on the quality (in terms of supply duration, taste, odour and colour)
- Level of satisfaction with access, quantity and service in terms of frequency and regularity of supply, etc.

Also, do they check the consumption now that the meter is installed?

- If any treatment process adopted (current available solution only including What/Why/How –Payment)
- Receipt of bills for payment
- Does billing happen? If so, at what frequency?
- Would they prefer monthly bills, once in two months, etc.?
- Other sources of water when piped water is not available. Cost incurred and travel time to access other sources
- Current mechanism/procedure to provide information during civil works phase, and once the pipelines are laid on supply and supply disruptions, ?
- Current mechanisms to record grievances
- Response time
- Satisfaction levels on approaching lineman, waterman, plumber
- Awareness on parihara?
- Preferred future modes of engagement
- Information /Communication on topics required
- Suggestions on improving grievance redressal mechanism

Discussion with women users

- Water scarcity in the area- Is there a need for calling for water tankers? if so, at what cost and how timely is the supply
- Daily requirements of water for drinking & cooking
- What was the situation earlier?
- Sources of supply to meet the service delivery requirement
- Quality and pressure of water supply
- Ease of obtaining connection
- Role of men and women in the practice of water conservation
- Time spent in collection of water (Carriage & Storage -Distance)
- Relevance and association with health risks from unsafe water -Recent deaths/illnesses in the family -Why/how often
- Usage of filtration techniques
- Need to store
- Cost of storage
- Medical expenses in treating water borne ailments
- Health - water borne diseases, particularly during rains, loss of wages and loss of school, etc.
- Drop out incidents from school (especially of girls) due to water collection from far away locations

Discussion with BPL groups

- Daily requirements of water for drinking & cooking
- What was the situation earlier?
- Sources of supply to meet the service delivery requirement
- Quality and pressure of water supply
- Ease of obtaining connection
- Supply hours
- Community contribution paid towards construction/installation of pipelines?
- Connection/ user charges and frequency (e.g. installment payments, duration) (any subsidies or incentives)
- Is there water scarcity in the area /what is the coping mechanism?
- Other sources of water when piped water is not available. Cost incurred and travel time to access other sources
- Relevance and association with health risks from unsafe water -Recent deaths/illnesses in the family -Why/how often
- Health - water borne diseases, particularly during rains; loss of wages and loss of school, etc.

- Medical expenses in treating water borne ailments
- Drop out incidents from school (especially of girls) due to water collection from far away locations
- Current mechanism/procedure to provide information to the community during civil works phase, and once the pipelines are laid on supply and supply disruptions?
- Current mechanisms to record grievances
- Response time
- Satisfaction levels on approaching lineman, waterman, plumber
- Awareness on parihara?

Discussion with ISA/ISRA

- Current role and activities undertaken in the last six months.
- No. of staff (disaggregated by gender), remuneration, budgetary allocation for implementation
- Sourcing of community mobilizers, criteria, process of selection
- HR related: Staff grievances, Internal Complaints Committee
- Experiences and key takeaways in respect of:
- Community mobilization
- Public grievance redressal
- Capacity building of officials, GPs, SHGs, VWSC, and other user groups
- Skill development on O&M
- Challenges related to IEC
- What improvements is required going forward.
- Coordination process with govt. officials, ISRA, GPs, VWSC and other user groups.
- Details on special gram sabha for certification for Har Ghar Jal status. What is the process in tribal areas?
- Internal monitoring and reporting on achievement of activities

Discussion with GRM female PARIHARA representatives

- Current mechanisms to record grievances
- Response times
- Satisfaction levels
- Preferred future modes of engagement
- Suggestions on improvement of grievance redressal mechanism
- Is there a need for skill enhancement/capacity development, exposure; need to train for stress
- Of the complaints received, how many are females?
- Does the call center get evaluated periodically?

Discussion with VWSC representatives/GP

- Current roles; tenure, constitution and nomination process
- Experiences and key takeaways in respect of
- Preparation of Village Action Plan (VAP) based on the type of scheme to be taken up in the village to provide FHTC to every rural household.
- Ensuring land availability, willingness including affordability of people to contribute, Informing relevant authorities about low pressure, quality issues, if any, water leakages, overflows; grievance redressal process; supervision of construction of in-village infrastructure; etc.
- Educating women and children about water usage and conservation and spread message on water conservation messages; ensuring participation of village community including all its habitations, ISA, DWSM, RWDSD officials, etc. in Gram Sabha and PRA activities
- Subsidies and measures to ensure inclusion of all vulnerable households to achieve 100% FHTC.
- Data on status of water supply (pressure, timing, frequency, chlorination during monsoons)
- Metered connections (residential and commercial);

- Major water users; rates for connections, monthly charges
- Prevalence of water tankers in the area (government deployed and private operators and their charges/litre)
- Testing approach/laboratories
- Usage of filtration techniques
- Water conservation practices
- Constraints to operations
- Sources of water (treated and untreated)

Discussion with PRED wrt tank rejuvenation

- Experiences and key takeaways in respect of
- Is any E&S screening/assessment/analysis carried out prior to taking up of activity?
- What is the contracting process? Does the contract include clauses with respect to aspects such as occupational, health and safety, labour conditions and welfare?
- How are issues of non-titleholders/encroachments dealt with? Are there any measures or steps adopted for livelihood restoration?
- Labour supply for construction?
- What measure are adopted for management of OHS?
- Who supervises and monitors the activity to ensure that OHS standards are met?
- What process is adopted for involving communities in the planning, construction, maintenance and repair?
- Does PRED have institutional capacity to manage E&S risks and impacts?

Annexure 4: Brief report, Agenda, and List of Participants for the Stakeholder Consultation Workshop

The stakeholder workshop on draft ESSA was organised on December 6th, 2022 with 80 participants including representatives from various departments (RDWSD, PRED, Health, Minor Irrigation, Forest. Etc.), district administration, PRIs, grassroots workers (Anganwadi and ASHA), civil society organisations and academia.

Mr. Gangadhara Swamy, I.A.S Director, RDWSD welcomed the participants. In his opening remarks, the Director spoke about the Jal Jeevan Mission (JJM) and the program's focus on providing potable water to every household, school, anganwadi centre, primary health centre, community centres, etc. in rural areas. He spoke of the GoK's commitment through the *Jaladhare* program to provide FHTCs to all households in the rural areas of the state. He concluded that the workshop was organised not only to inform all stakeholders about the program, but also to seek their feedback and suggestions that will lead to improvement in the overall program design, planning and implementation.

The opening remarks was followed by a brief overview of the PforR program by Mr. Mariappa Kullappa, Senior Water Supply and Sanitation Specialist, the World Bank. The session detailed the objectives, cost, timeline, indicators, and key components/activities under the program. Mr. Srihari G, Senior Social Development Specialist, the World Bank highlighted the purpose of the ESSA and briefly explained the methodology adopted by the World Bank team in preparing the ESSA. The key findings and recommendations of the report were presented by the World Bank consultants, Mr. Parimal Sadaphal and Ms. Philarisa Sarma Nongpiur. The presentation was followed by comments, Q&A and discussion with the participants which was moderated by Mrs. Sheetal Singh, Director (ISA), RDWSD.

The main points that emerged from the stakeholder workshop included the following:

- Need for closing contaminated/defunct borewells, and closely monitoring existing assets for contamination. Emphasis on sourcing of water from MVS, to minimize use of borewells.
- Continuation of RO plants only in areas where water quality is affected, as most households will be provided with Functional Household Tap Connection.
- Importance of replenishment of borewells in water depleted areas.
- Extensive behavioral change campaigns needed to build awareness and reduce the use of borewells for drinking purposes.
- Capacity building of rural staff and VWSC members on FTK testing is much needed, in order to identify and address any water contamination issues on time.
- Need for strengthening and building capacity of VWSC members on their roles and responsibilities, for sustainability of the schemes in the long run.
- Need for advice and guidance on the social audit procedures under the Jal Jeevan Mission.
- Need for increasing awareness on Parihara among the community members, including other departments and agencies.
- Collaboration with other agencies and departments, such as the health department on IEC and training activities related to benefits of drinking water, health impacts and sanitation.
- Priority should be given to the management and monitoring of drinking water assets in an environmentally and socially sustainable manner.
- Need for fund allocation and increasing IEC, training and capacity building activities for staff and VWSC members on environmental and social risk management.
- Need for embedding cross-learning through study tours to better performing districts and GPs.

The agenda, list of participants and the presentation slides along with selected photographs are given below.

1. Agenda of the Workshop

KARNATAKA SUSTAINABLE RURAL WATER SUPPLY PROGRAM
Stakeholder Consultations Workshop
on
Draft Environmental and Social Systems Assessment [ESSA] Report
10:30-13:00, December 6, 2022
Venue: Radisson Blu, Bangalore

Agenda		
Timing	**Session Description**	**Speaker / Anchor**
10:30-10:35	Welcome Remarks	RDWSD
10:35-10:40	Opening Remarks	Mr. Gangadhara Swamy, I.A.S Director, RDWSD
10:40-10:50	Key note address	Mr. L.K. Atheeq I.A.S ACS, RDRP Dep
10:50-11:00	Karnataka Sustainable Rural Water Supply PforR-A Program overview	Mr. Mariappa Kullappa, WB
11:00-11:15	ESSA: Overview and Process	Mr. Srihari G, WB
11:15-11:30	ESSA: Findings & Recommendation- Environment	Mr. Parimal Sadaphal, WB
11:30-11:45	ESSA: Findings & Recommendation- Social	Ms. Philarisa Sarma Nongpiur, WB
11:45-12:45	Discussions	Moderated by Mrs. Sheetal Singh, Director(ISA), RDWSD
12:45-13:00	Closing Remarks	

2. List of Participants

RURAL DRINKING WATER AND SANITATION DEPARTMENT
RURAL DEVELOPMENT AND PANCHAYAT RAJ DEPARTMENT

WORLD BANK GROUP

KARNATAKA SUSTAINABLE RURAL WATER SUPPLY PROGRAM

Stakeholder Consultations Workshop on

Draft Environmental and Social Systems Assessment [ESSA] Report

Participants Details

Sl. No	Name of the participants	Designation	Department / Organization / Institute	Contact No	E-Mail	Sign
1.	Madhu D	Sl. Env. Consultant	RDWSD	9845516560	madhudharshan@gmail.com	
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4.	Raghavendra. Dodamani	AEE, LWS, Gadag.	RDWSSD	9741263745	raghavendr.pd@gmail.com	
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6	Kumar. Rafar	PDO Kustakoti Gadag	RDPR	9008204743	kumarpufar1983@gmail.com	
7	Basavaraja. G.	ISA Team leader	Vahini Social Development Society	9945190571	basavarajgs[illegible]@gmail.com	
8	M Kullappa	TTL	world bank	9948159099		

parihara 9480985555

RURAL DRINKING WATER AND SANITATION DEPARTMENT
RURAL DEVELOPMENT AND PANCHAYAT RAJ DEPARTMENT

WORLD BANK GROUP

KARNATAKA SUSTAINABLE RURAL WATER SUPPLY PROGRAM

Stakeholder Consultations Workshop on

Draft Environmental and Social Systems Assessment [ESSA] Report

Participants Details

Sl. No	Name of the participants	Designation	Department / Organization / Institute	Contact No	E-Mail	Sign
1	L Ramakrishnappa	E.E	RDWS Chikkaballapura	9886629118	Lramakrishnappa	
2	Manjunatha P.A.	State SLWM con	RDWS&S Dept	9036997244	@gmail.com (manjunathapa@gmail.com)	
3	Vidyanarang	MIS Expt	RDWSD	9741024993	vidy@gmail.com	
4	Darshini N	AEE	RDWSD, Head office	9901199219	cerws14@gmail.com	
5	Ramanjaneya	IEC Expert	RDWSD - Sim	9448396577	vasanthavamu440 @gmail	
6	S.K. Molegamvi.	Consultant & [illegible]	RDWSD - W.B	99805 68296	molegamvisk@gmail.com	
7	Imran Lacker.	Finance Expert.	PMU - RDWSD	9435090320	imran.lasker@smec.com	
8						

parihara 9480985555

RURAL DRINKING WATER AND SANITATION DEPARTMENT
RURAL DEVELOPMENT AND PANCHAYAT RAJ DEPARTMENT

WORLD BANK GROUP

KARNATAKA SUSTAINABLE RURAL WATER SUPPLY PROGRAM

Stakeholder Consultations Workshop on

Draft Environmental and Social Systems Assessment [ESSA] Report

Participants Details

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3. Photos taken at the Workshop

Annexure 5: Provisions in Client Systems and Proposed Strategy for Strengthening Environmental Management

Environment		
Environmental Issues/Risks	**Current provisions in client systems to address these issues**	**Proposed strategy for strengthening**
Statutory requirements such as proposed construction on statutorily protected land (forest, CRZ, etc.) Other Environmental impacts such as impact on nearby / adjacent habitations / land or pre-existing infrastructure, drainage flows, prevailing travel routes / pathways, animal / wildlife / grazing corridors, etc.	Statutory issues such as proposed construction on statutorily protected land (forest, CRZ, etc.) get identified during DPR/PSR preparation stage. They are subsequently addressed during scheme design. Current borrower systems do not have any dedicated mechanism to identify and address such impacts such as screening, etc.	• Borrower systems will be strengthened by introducing a formal screening procedure for assessing these requirements at DPR / PSR preparation stage • Also, preparation of scheme specific ESMPs at DPR stage will be made mandatory for all schemes, which will cover statutory requirements as well • For EPC contracts, mitigation actions mandated by the scheme-specific ESMP will be made part of bid documents • For DBOT contracts, important Environmental issues assessed during screening at PSR preparation stage will be included in bid document. Contractors will be obligated to submit a scheme-specific ESMP along with the DPR • Scheme-specific ESMPs will contain all necessary mitigation measures to address all identified and assessed E&S impacts
Groundwater stress issues (low borewell yield, drying up of borewells, low rate of recharge, low rainfall)	• Current borrower practices to address groundwater stress issues include the following: • Drilling of multiple borewells to meet water requirement • Drilling of additional borewells in case of existing borewells drying up • Connect to an MVS wherever feasible • Rejuvenate nearby tanks to augment borewell recharge	• Include ground water stress issues in screening procedure for borewell based schemes • Undertake geohydrological assessment of proposed borewell sites to assess quantum and reliability of yield of borewell • Determine feasibility of any simple and affordable measures to sustain borewell yield – initiate drilling only after reasonable confidence is gained on reliability of borewell(s) • Connect to an MVS wherever feasible • Rejuvenate nearby tanks to augment borewell recharge • Include necessary measures in mandatory scheme specific ESMP
Groundwater quality (contamination) issues:	• State has installed independent RO plants in villages (in addition to the RWSS) which supply purified water for drinking purposes at minimal cost. However, the RWSS in itself does not have any water treatment unit. • Water quality surveillance system is in place but does not have provision for testing bacteriological contamination. However, the state is already in the process of adding facilities for testing of bacteriological parameters in the State Government Labs • Connect to an MVS wherever feasible	• Include water quality assessment in the screening procedure • Strengthen water quality surveillance to include more water quality parameters including bacteriological parameters, better frequency of testing and associated treatment mechanism • Ensure that appropriate water treatment units are included in scheme design • Connect to an MVS wherever feasible

Impacts of uncontrolled or improper grey water disposal	• A proper grey water disposal mechanism is a positive impact in itself • The Department is already piloting mechanisms of safe and sustainable disposal of grey water generated in villages • Based in the experiences derived from these pilots, it is planned to replicate such systems all over the state	• The Bank will closely follow the progress of the pilots and work with the Department to develop appropriate, effective strategies and plans for replication
Construction near historically important structures or on land of physical/cultural importance to the community	• Contractors are contractually obligated to comply with AMSAR and related state regulations • No specific systems are in place for addressing this issue • Staff awareness on PCR aspects is low	• Include PCR related assessment in the screening procedure • Plan to undertake PCR related training of Departmental and contractor staff • Include necessary measures in mandatory scheme specific ESMP
Inadequate emphasis on borewell recharge measures	State Government has separate Groundwater and Watershed Development Departments which are exclusively dedicated to undertaking measures on groundwater recharge and soil and water conservation	Explore and strengthen possibilities of converging with concerned department for instituting appropriate groundwater recharge measures in all borewell based SVS
Environmental impacts of tank construction or rejuvenation such as debris disposal, obstruction to drainage flows, impacts on community land use (grazing, cultural activities, sports, etc.), impact on travel routes/pathways/trails, impacts on animal/wildlife corridors, etc.	The current borrower systems do not have any dedicated mechanism such as screening, ESMP preparation, monitoring, etc. to specifically identify, address and document such impacts.	Borrower systems will be strengthened by introducing a formal screening procedure for assessing these requirements Also, scheme specific ESMPs will be prepared, wherever necessary
Construction activity related impacts (for RWSS as well as tanks) such as road / pathway obstruction, dust/air quality, noise, traffic management, impact on institutions/public facilities located in the vicinity, site restoration post completion of construction activity, etc.	All contractors are expected to address most of these impacts in conformance to applicable regulations as per their contractual obligations. However, prevailing borrower systems do not have dedicated mechanisms to specifically identify and document such impacts and ensure that they are addressed adequately	The scheme specific ESMPs, particularly those pertaining to borewell based SVS, tank rejuvenation and construction of center for excellence will be mandated to cover all envisaged construction activity related impacts and issues as well
Inadequate natural catchment protection measures and/or maintenance of network of natural recharge channels for freshly constructed or rejuvenated tanks	Current borrower systems have no provision for addressing catchment protection issues	• Preparation of a sub-project specific ESMP to be made mandatory for all new tank construction and rejuvenation works • ESMP to address catchment protection issues
Health		
Environmental Issues/Risks	**Current provisions in client systems to address these issues**	**Envisaged strengthening measures in project**
Worker health issues during construction (RWSS as well as Tanks)	Current borrower systems mandate all contractors to adhere to applicable labor laws and standards during works execution. Departmental	• Monitoring system will be strengthened further to record labor management compliance and labor health issues, if required

	Engineering staff are responsible for monitoring and ensuring compliance	
Inadequate O&M practices, such as no chlorination, no bore-well protection (fencing, levelling), no scheme site layout planning, tank bund maintenance, etc., which could lead to community health impacts	Borrower systems are weak on O&M practices such as site maintenance, absence of proper chlorination, etc.	• Strengthen O&M regime to include all such measures. Department already has a new O&M Manual, which can be further strengthened • ESMP will be mandated to cover all O&M related issues • O&M monitoring system will be strengthened to ensure that all E&S issues are adequately addressed and documented
Introduction of grey water disposal arrangements, if not designed properly, could lead to commensurate Environmental impacts on the community due to water logging, vector menace, etc.	Currently Department is experimenting with some possible grey water disposal solutions. The solutions will automatically lead to mitigation of prevailing impacts (in absence of these solutions) that would have taken place otherwise. However, proper system design and construction will have to be ensured to prevent any consequent impacts.	• The E&S screening procedure will be applied to grey water management systems also to identify any potential impacts. • ESMP preparation for grey water disposal systems will be mandated to address any identified impacts
Safety		
Environmental Issues/Risks	**Current provisions in client systems to address these issues**	**Envisaged strengthening measures in project**
Inadequate safety features in scheme design/plan	Prevailing procedures mandate preparation of all scheme/component designs in conformance with relevant safety requirements and standards. However, they do not have specific provision for ensuring and cross-checking incorporation of relevant safety features in scheme design	• Screening procedure will include screening for safety provisions incorporated in scheme design • ESMP will mention and describe all safety provisions that need to be incorporated in the scheme design
Inadequate safety measures during construction activity	Contractors do not follow safety protocol	The E&S Monitoring system will include provisions for keeping a tab on worker safety arrangements, site layout features, signages, etc. deployed during construction phase
Inadequate observance of safety measures during O&M	Maintenance of safety equipment and safety protocol are often ignored during O&M	• O&M protocol to be strengthened to ensure that safety protocol is followed and safety equipment are properly maintained • An effective O&M monitoring system will also be designed.

Annexure 6: Summary of ESSA Core Principles and Exclusion List

Summary of ESSA Core Principles

Core Principle #1: Program E&S management systems are designed to (a) promote E&S sustainability in the Program design; (b) avoid, minimize, or mitigate adverse impacts; and (c) promote informed decision-making relating to a Program's E&S effects

Core Principle #2: Program E&S management systems are designed to avoid, minimize, or mitigate adverse impacts on natural habitats and physical cultural resources resulting from the Program. Program activities that involve the significant conversion or degradation of critical natural habitats or critical physical cultural heritage are not eligible for PforR financing.

Core Principle #3: Program E&S management systems are designed to protect public and worker safety against the potential risks associated with (a) the construction and/or operation of facilities or other operational practices under the Program; (b) exposure to toxic chemicals, hazardous wastes, and otherwise dangerous materials under the Program; and (c) reconstruction or rehabilitation of infrastructure located in areas prone to natural hazards.

Core Principle #4: Program E&S systems manage land acquisition and loss of access to natural resources in a way that avoids or minimizes displacement and assists affected people in improving, or at the minimum restoring, their livelihoods and living standards

Core Principle #5: Program E&S systems give due consideration to the cultural appropriateness of, and equitable access to, Program benefits, giving special attention to the rights and interests of Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities, and to the needs or concerns of vulnerable groups.

Core Principle #6: Program E&S systems avoid exacerbating social conflict, especially in fragile states, post-conflict areas, or areas subject to territorial disputes.

Exclusion List

In the first step, proposed project components and activities were screened to determine if any of them fall in the 'excluded' category, which cannot be included in the Bank supported PforR Program. A brief examination of the proposed project investments alongside the Bank's exclusion criteria for a PforR revealed the following:

SN	Bank's Exclusion Criteria for PforR	Discussion on whether any Project activities conform to these criteria
1.	Significant conversion or degradation of critical natural habitats or critical cultural heritage sites;	• The quantum of land required will not be significantly large except in case of setting up of the Center of Excellence. • In case of in-village works, no new land parcels will be required except if a new infrastructural component such as an OHT is to be set up. • In case of setting up WSS infrastructure in hitherto unserved villages, identification of land parcels will be required. In such cases, the project screening will establish and ensure that no critical natural habitats or cultural heritage sites are adversely affected in any manner. • In case of MVS refurbishment and Tank rejuvenation works, the proposed site and infrastructure will be screened beforehand for any adverse impacts on critical Natural Habitats or cultural heritage sites before going ahead with the refurbishment works. • In case of establishment of Center of Excellence also, prior screening will be undertaken to determine any impacts as above. **Hence this criterion will not apply**.

2.	Air, water, or soil contamination leading to significant adverse impacts on the health or safety of individuals, communities, or ecosystems;	• Since only treated water, extracted from sustainable sources is going to be supplied, no impacts on human health are expected. • Minimal air pollution is expected to happen, only during construction which can be controlled through standard procedures. • Grey water disposal systems planned in the state are well-designed and not likely to cause any soil and water contamination. • In case of construction of Center of Excellence, impacts can be addressed appropriately if good construction practices are adopted. This can be ensured through effective monitoring. • Issues specific to Karnataka state, particularly in respect of low borewell yield and contaminated groundwater can be suitably mitigated through appropriate safeguards built into the project. **Hence this criterion will not apply.**
3.	Workplace conditions that expose workers to significant risks to health and personal safety;	Most of the infrastructure creation envisaged in the Project relates to simple structures such as pumphouses, OHTs, manual excavation (for tank deepening), etc. which do not expose workers to any significant risks except perhaps, in case if OHTs and construction of Center for Excellence. **Hence this criterion will not apply**.
4.	Land acquisition and/or resettlement of a scale or nature that will have significant adverse impacts on affected people, or the use of forced evictions;	The quantum of land required will not be significantly large, thus will not have significant adverse impacts. In case of in-village works, MVS refurbishment and tank rejuvenation no new land parcels will be required, except if a new infrastructural component such as setting up of OHT or WSS infrastructure in hitherto unserved villages are considered. The land for such works is mostly panchayat/ revenue land and in case of non-availability of such land, purchase of land through negotiated settlement is undertaken which is in line with the existing legal framework. The proposed site and infrastructure will be screened beforehand for any adverse impacts related to land acquisition and/or involuntary resettlement. **Hence this criterion will not apply**.
5.	Large-scale changes in land use or access to land and/or natural resources;	The program does not support construction of MVS which will have an adverse impact on large land tracts. The infrastructure interventions mostly pertain to single villages. **Hence this criterion will not apply.**
6.	Adverse E&S impacts covering large geographical areas, including transboundary impacts, or global impacts such as greenhouse gas (GHG) emissions;	The Program supported infrastructure interventions mostly pertain to single villages. Hence no large-scale, transboundary or global scale impacts are possible. In respect of MVS, high discharge pumping may result in some GHG emissions but since the Project interventions include efficiency improvement measures for pumps, the impacts are likely to be less intense. **Hence this criterion will not apply.**
7.	Significant cumulative, induced, or indirect impacts;	No significant cumulative or induced impacts are envisaged. **Hence this criterion will not apply**
8.	Activities that involve the use of forced or child labor;	There are legal safeguards prohibiting forced or child labor, which are embedded in the contract/ bid documents. Monitoring systems will be setup to ensure compliances with such regulations. **Hence this criterion will not apply.**
9.	Marginalization of, discrimination against, or conflict within or among, social (including ethnic and racial) groups; or	The JJM/ Jaladhare program aims at 100% coverage of FHTCs. Moreover, community members in hilly, forested, & villages with more than 50% SC/ ST population have to contribute 5% of capital cost, unlike the remaining villages which have to contribute 10% of the capital cost. **Hence this criterion will not apply.**
10.	Activities that would (a) have adverse impacts on land and natural resources subject to traditional ownership or under customary use or occupation; (b) cause relocation of Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities from land	No significant impacts on land, natural resources subject to traditional ownership or relocation are envisaged in case of in-village RWSS works since the works are inherently small in nature and have minimum disruptive potential. Even in case of Tanks, these issues will not arise as the Project only supports rejuvenation of pre-existing tanks. **Hence this criterion will not apply**

Annexure 7- Recommendations for Environment Management

This section outlines the modified procedures recommended for adoption by the implementing agencies for planning, approving and implementing sub-projects under the Bank funded PforR program. The section is divided into two parts, one each for RDWSD and PRED respectively.

RDWSD

The nature of works intended to be carried out under this PforR Program and their implementation modalities are as below:

SN	Type of sub-projects	Likely works involved	Environmental Sensitivities and Suggestions	Likely type of contract	Recommendations
1.	In-village repair works or expansion of existing water supply infrastructure in villages provided bulk water by a MVS	• Piping network expansion/ repair • Civil structures repair • Pump/electrical repair or replacement • Water treatment unit installation • Safety systems upgradation <u>Could also involve:</u> • New borewell drilling • New OHT construction	• Civil/electrical repair works will involve standard design and construction related environmental sensitivities • Only new borewell drilling and OHT construction would have certain siting related issues of some environmental sensitivity	EPC	• Initial screening will be required to determine pre-intervention compliance status • Scheme-specific EMP will be required in case new borewell drilling is involved
2.	Existing MVS – renovation/ expansion	This work will mostly involve civil repair, replacement of equipment or upgradation of safety aspects in various MVS components such as WTP, intakes, etc.	• No siting issues • All other activities are manageable through standard safeguard measures	EPC	• Initial screening will be required to determine pre-intervention compliance status • EMP would need to be prepared
3.	Grey water disposal infrastructure	This work will involve construction of grey water channel network and the infrastructure for ultimate processing and disposal	• Siting issues will be encountered • Most impacts are manageable through standard safeguard measures	EPC	• Initial screening will be required to determine pre-intervention compliance status • Site-specific EMP will be required
4.	Establishment of Center for Excellence or renovation of water	This will involve site selection, building design and medium-scale civil construction works	• Siting would be the only critical environmental sensitivity in this case • Environmental considertions can be integrated into the building design	EPC	• Initial screening will be required • Building design would be reviewed for compatibility with Environmental

SN	Type of sub-projects	Likely works involved	Environmental Sensitivities and Suggestions	Likely type of contract	Recommendations
	quality testing labs		• Other construction related issues can be managed by preparing and implementing a good EMP		norms and best practices • Scheme-specific EMP will be required in case there are any siting related issues

Consequently, from the above discussion, the following modifications are recommended in the RDWSD scheme implementation procedures (EPC) for in-village WSS renovation/expansion works, MVS renovation/repair works, grey water safe disposal infrastructure creation works and design and construction of Center for Excellence, based on the borrower systems assessment undertaken in chapter-5:

Step No	Short Title	
1.	Scheme Proposal	
2.	DPR/Line Estimate	• Initial screening • EMP for managing EHS issues during design, construction and O&M stages •
3.	Admin Approval for DPR	-
4.	Technical Sanction	Findings of Environmental screening and quality of EMP (wherever applicable) to be made criteria for TS
5.	Inviting Tenders	• Clauses on EHS/OHS requirements to be made more extensive • EMP to be included in Tender Document
6.	Tender evaluation: Technical Bid Opening	Quality of contractor's methodology for complying with EMP to be made an evaluation criterion
7.	Financial Bid Opening	-
8.	Tender Evaluation of Financial bids	-
9.	Contract Award	Compliance to EMP and allied actions to be made part of contract articles
10.	Contract Monitoring/ Management	EMP monitoring to be undertaken and documented
11.	Works completion	Completed works to be verified for satis-factory inclusion of EHS features
12.	Commissioning and O&M	EMP to be complied with and monitored during operations

Manpower Required

Office	Post	Minimum Qualifications	Minimum Experience
State Level PMU	Environment Specialist, PMU	Post-Graduate in a suitable branch of Engineering such as Civil, Environmental, Water Resources, etc. or allied fields such as Environmental Science, Watershed Management, etc.	10 Years
District level Support Staff (DTSS)	Environment Specialist, DTSS	Graduate in a suitable branch of Engineering such as Civil, Environmental, Water Resources, etc. or allied fields such as Environmental Science, Watershed Management, etc.	3 Years

PRED

Modifications to PRED procedures for tank rejuvenation works are as follows:

Step No	Short Title	Suggested modified systems for Tank rejuvenation works
1.	Proposal	Nil
2.	Line Estimate	Nil
3.	Approval of Action Plan	Nil
4.	DPR and Estimate preparation	• A short procedural step on EHS/OHS assessment leading to preparation of an EMP should be added. • EMP should be included in DPR
5.	Technical Sanction	TS procedure be modified to evaluate the EMP before clearing the DPR
6.	Inviting Tenders	EMP should be included along with DPR in the tender
7.	Tender evaluation: Technical Bid Opening	Environmental criteria to be added to tender evaluation criteria for determination of eligible contractors
8.	Technical Bid Approval	Nil
9.	Financial Bid Opening	Nil
10.	Financial Bid Approval	Nil
11.	Contract Award	Nil
12.	Contract Monitoring/ Management	Strengthen monitoring systems to undertake structured EHS/OHS monitoring
13.	Works completion	Add an additional step pertaining to Environment compliance check. Completed works will be checked for fulfilment of all EMP provisions

Manpower required

Office	Post	Minimum Qualifications	Minimum Experience	ToR in Annex. No
District Level	Environment and Social Specialist	Graduate or Post-Graduate in a suitable branch of Engineering such as Civil, Environmental, Soil and Water Conservation, etc. or allied fields such as Geology, Hydrology, Environmental Sciences, Watershed Management, etc.	5 Years	To be drafted and added

Annexure 8- Capacity Building Plan

Capacity Building Plan for PRED

Given below is a broad outline, based on which a detailed capacity building plan can be developed for PRED

SN	Category of Personnel	Suggested Topics	Suggested Duration
1.	State level PIU staff including Environment and Social Specialist	• Basics of Environmental and Social Screening and Assessment • World Bank PforR Policy and Safeguards requirements • Introduction to ESSA • ESSA for KSRWSP – procedures, roles and responsibilities • Monitoring and reporting procedures on social risks management related to land, labour, citizen engagement and inclusion • Gender mainstreaming and response to SEA/SH risks	Half day
2.	Technical/Engineering Personnel – CE, SE and EEs (State and selected districts)	• Introduction to ESSA • ESSA for KSRWSP – procedures, roles and responsibilities • Monitoring and reporting procedures on social risks management related to land, labour, citizen engagement and inclusion • Gender mainstreaming and response to SEA/SH risks	2 hours
3.	AEEs, AEs and JEs	• Introduction to ESSA • ESSA for KSRWSP – procedures, roles and responsibilities • Monitoring and reporting procedures on social risks management related to land, labour, citizen engagement and inclusion • Gender mainstreaming and response to SEA/SH risks	3 hours
4.	Contractors	• Introduction to ESSA – procedures, roles and responsibilities • Labour standard compliance • Grievance redressal mechanism for workers • Gender mainstreaming and response to SEA/SH risks	2 hours
5.	Contractor Technical/Engineering staff	• Introduction to ESSA – procedures, roles and responsibilities • Labour standard compliance • Grievance redressal mechanism for workers • Gender mainstreaming and response to SEA/SH risks	2 hours
6.	PDOs and GP level staff and functionaries	• Introduction to ESSA – procedures, roles and responsibilities • Monitoring and reporting procedures on social risks management related to land, labour and inclusion	2 hours

Capacity Building Plan for RDWSD

Given below is a broad outline, based on which a detailed capacity building plan can be developed for RDWSD

SN	Category of Personnel	Suggested Topics	Suggested Duration
1.	Environment Specialists (State and District) Social Specialist (State)	• Basics of Environmental and Social Screening and Assessment • World Bank PforR Policy and Safeguards requirements • Introduction to ESSA • ESSA for KSRWSP – procedures, roles and responsibilities • Monitoring and reporting procedures on social risks management related to land, labour, gender and inclusion	1 day
2.	State level PMU staff	• World Bank PforR Policy and Safeguards requirements • Introduction to ESSA and its procedures/requirements • Gender mainstreaming and response to SEA/SH risks	2 hours
3.	Technical/Engineering Personnel (RDWSD HQ)	• Introduction to ESSA • ESSA for KSRWSP – procedures, roles and responsibilities • Basics of Environmental and Social Screening and Assessment • Monitoring and reporting procedures on social risks management related to land, labour, citizen engagement and inclusion • Gender mainstreaming and response to SEA/SH risks	Half day
4.	Executive Engineers	• Introduction to ESSA – procedures, roles and responsibilities • Basics of Environmental and Social Screening and Assessment • Response to SEA/SH risks • Grievance redressal mechanism	2 hours
5.	AEEs, AEs and JEs	• Introduction to ESSA • ESSA for KSRWSP – procedures, roles and responsibilities • Basics of Environmental and Social Screening and Assessment • On-site supervision and reporting procedures on social risks management related to land, labour, citizen engagement and inclusion • Response to SEA/SH risks • Grievance redressal mechanism	Half day
6.	District PMU personnel	• Introduction to ESSA	2 hours

7.	Contractors	• Introduction to ESSA – procedures, roles and responsibilities • Labour standard compliance • Grievance redressal mechanism for workers • Gender mainstreaming and response to SEA/SH risks	Half day
8.	Contractor Technical/Engineering staff	• Introduction to ESSA – procedures, roles and responsibilities • Labour standard compliance • Grievance redressal mechanism for workers • Gender mainstreaming and response to SEA/SH risks	Half day
9.	ISA and ISRA	• Introduction to ESSA – procedures, roles and responsibilities • Reporting on monitoring indicators related to improved health, participation of women, reduced drudgery, education, employment opportunities for women, etc. • Gender mainstreaming and response to SEA/SH risks • Social inclusion, participatory planning and monitoring (Social Audit, PRA) • Grievance redressal mechanism	
10.	DWSM	• Introduction to ESSA – procedures, roles and responsibilities • Reporting on monitoring indicators related to improved health, participation of women, reduced drudgery, education, employment opportunities for women, etc. • Grievance redressal mechanism	
11.	Gram Panchayat, Village Water and Sanitation Committees	• Introduction to ESSA – procedures, roles and responsibilities • Social screening during preparation of Village Action Plan • Roles and responsibilities pertaining to social inclusion, participatory planning and monitoring (Social Audit, PRA) • Behavioural change • Grievance redressal mechanism	