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Report No: PAD440

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED LOAN

IN THE AMOUNT OF US$100.00 MILLION

TO THE
REPUBLIC OF INDIA

FOR A

KARNATAKA URBAN WATER SUPPLY MODERNIZATION PROJECT

March 10, 2016

Water Global Practice
South Asia Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective January 31, 2016)

Currency Unit = Indian Rupees
INR 67.83 = US$1

FISCAL YEAR
April 1 – March 31

ABBREVIATIONS AND ACRONYMS

AMRUT	Atal Mission for Rejuvenation and Urban Transformation
ADB	Asian Development Bank
BPL	Below Poverty Line
CAG	Comptroller and Auditor General
CAPEX	Capital Expenditure
CMMS	Computerized Maintenance Management System
CMSTDP	Chief Minister's Small Town Development Program
CLC	Community Liaison Cell
CPS	Country Partnership Strategy
CQS	Selection based on Consultants' Qualifications
CSI	Communications and Social Intermediation
CSIS	Communication and Social Intermediation Strategy
CSO	Civil Society Organization
DGS&D	Directorate General of Supplies & Disposals
DMA	District Metering Area
DSCR	Debt Service Coverage Ratio
ECoP	Environmental Code of Practice
ESA	Environment and Social Assessment
EBIDTA	Earnings Before Interest Depreciation and Amortization
ELSRs	Elevated Service Reservoirs
EMP	Environmental Management Plan
EPP	Emergency Preparedness Plan
FM	Financial Management
GLSRs	Ground Level Service Reservoirs
GIS	Geographical Information System
GoI	Government of India
GoK	Government of Karnataka
GRS	Grievance Redress Service
ICRR	Implementation Completion and Results Report
ICT	Information and Communication Technology
ICB	International Competitive Bidding
IUFR	Interim Unaudited Financial Reports
KMRP	Karnataka Municipal Reform Project
KSHIP	Karnataka State Highway Improvement Project

KUIDFC	Karnataka Urban Infrastructure Development and Finance Corporation
KUWASIP	Karnataka Urban Water Supply Improvement Project
KUWSDB	Karnataka Urban Water Supply and Drainage Board
KUWSMP	Karnataka Urban Water Supply Modernization Project
Lakh	One hundred thousand
M&E	Monitoring and Evaluation
MD	Managing Director
MIS	Management Information System
MLD	Million Liters per Day
M&E	Monitoring and Evaluation
NGO	Nongovernmental Organization
NCB	National Competitive Bidding
NRW	Non-Revenue Water
NSS	National Sample Survey
O&M	Operations & Maintenance
PDO	Project Development Objective
PIU	Project Implementation Unit
PMU	Project Management Unit
PPP	Public-private Partnership
PRAMS	Procurement Risk Assessment and Management System
PFS	Project Financial Statement
QCBS	Quality-and Cost-Based Selection
RAP	Resettlement Action Plan
RFP	Request For Proposal
RPF	Resettlement Policy Framework
RFQ	Request For Qualification
SEA	State Engineering Agency
SC and ST	Scheduled Caste/Scheduled Tribe
SESA	Sectoral Environmental and Social Assessment
SFC	State Finance Commission
SIP	Service Improvement Plan
SLB	Service Level Benchmark
RFCTLA&RR	The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013
R&R	Resettlement and Rehabilitation
SPV	Special Purpose Vehicle
ToR	Terms of Reference
UDD	Urban Development Department
ULB	Urban Local Body
WSP	Water and Sanitation Program
WTP	Water Treatment Plant
WSS	Water Supply and Sanitation

Regional Vice President:	Annette Dixon
Country Director:	Onno Ruhl
Acting Senior Global Director:	Jennifer J. Sara
Acting Practice Manager:	Ousmane Dione
Task Team Leader:	William D. Kingdom

COUNTRY
INDIA

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PAD DATA SHEET

India

IN Karnataka Urban Water Supply Modernization Project (P130544)

PROJECT APPRAISAL DOCUMENT

SOUTH ASIA

GWADR

Report No.: PAD440

Basic Information			
Project ID	EA Category		Team Leader(s)
P130544	B - Partial Assessment		William D. Kingdom
Lending Instrument:	Fragile and/or Capacity Constraints [ ]		
Investment Project Financing	Financial Intermediaries [ ]		
	Series of Projects [ ]		
Project Implementation Start Date	Project Implementation End Date		
1-Apr-2016	31-May-2022		
Expected Effectiveness Date	Expected Closing Date		
01-Jun-2016	30-Nov-2022		
Joint IFC			
No			
Practice Manager/Manager	Senior Global Practice Director	Country Director	Regional Vice President
Ousmane Dione	Jennifer J. Sara	Onno Ruhl	Annette Dixon

Borrower: Republic of India			
Responsible Agency: State of Karnataka through Karnataka Urban Infrastructure Development and Finance Corporation (KUIDFC)			
Contact:	Mr. V.Ponnuraj	Title:	Managing Director
Telephone No.:	918022232023	Email:	ponnuraj@kuidfc.com

Project Financing Data

[X]	Loan	[ ]	IDA Grant	[ ]	Guarantee
[ ]	Credit	[ ]	Grant	[ ]	Other

Total Project Cost	US$153.00 million	Total Bank Financing	US$100.00 million
Financing Gap	US$0.00 million		

Financing Source	**Amount (US$, millions)**
Borrower	53.00
International Bank for Reconstruction and Development	100.00
Total	153.00

Expected Disbursements (US$, millions)

Fiscal Year	2017	2018	2019	2020	2021	2022	
Annual	3.00	37.00	37.00	20.00	2.00	1.00	
Cumulative	3.00	40.00	77.00	97.00	99.00	100.00	

Institutional Data

Practice Area (Lead)

Water

Contributing Practice Areas

–

Cross Cutting Areas

[ ]	Climate Change
[ ]	Fragile, Conflict & Violence
[ ]	Gender
[ ]	Jobs
[X]	Public Private Partnership

Sectors / Climate Change

Sector (Maximum 5 and total % must equal 100)

Major Sector	**Sector**	**%**	**Adaptation Co-benefits %**	**Mitigation Co-benefits %**
Water, sanitation and flood protection	Water supply	95		

Water, sanitation and flood protection	Sanitation	5		
Total		100		

☑ I certify that there is no Adaptation and Mitigation Climate Change Co-benefits information applicable to this Project.

Themes

Major theme	Theme	%
Urban development	City-wide Infrastructure and Service Delivery	100
Total		100

Proposed Development Objective(s)

The project development objective is to provide citywide access to a continuous piped water supply in the eligible cities in the state of Karnataka and to strengthen service delivery arrangements at the city level.

Components

Component Name	**Cost (US$, millions)**
Capital Investment Program	133.75
Institution Building	9.00
Technical Assistance for Sector Development	2.00
Project Management	8.00

Systematic Operations Risk-Rating Tool (SORT)

Risk Category	**Rating**
1. Political and Governance	Moderate
2. Macroeconomic	Low
3. Sector Strategies and Policies	Substantial
4. Technical Design of Project or Program	Substantial
5. Institutional Capacity for Implementation and Sustainability	Substantial
6. Fiduciary	Substantial
7. Environment and Social	Moderate

8. Stakeholders	Substantial	
9. Other	–	
OVERALL	Substantial	

Compliance		
Policy		
Does the project depart from the CAS in content or in other significant respects?	Yes [ ]	No [X]
Does the project require any waivers of Bank policies?	Yes [ ]	No [X]
Have these been approved by Bank management?	Yes [ ]	No [ ]
Is approval for any policy waiver sought from the Board?	Yes [ ]	No [X]
Does the project meet the regional criteria for readiness for implementation?	Yes [X]	No [ ]

Safeguard Policies triggered by the Project	**Yes**	**No**
Environmental Assessment OP/BP 4.01	**X**	
Natural Habitats OP/BP 4.04		**X**
Forests OP/BP 4.36		**X**
Pest Management OP 4.09		**X**
Physical Cultural Resources OP/BP 4.11	**X**	
Indigenous Peoples OP/BP 4.10		**X**
Involuntary Resettlement OP/BP 4.12	**X**	
Safety of Dams OP/BP 4.37	**X**	
Projects on International Waterways OP/BP 7.50		**X**
Projects in Disputed Areas OP/BP 7.60		**X**

Legal Covenants

Name	**Recurrent**	**Due Date**	**Frequency**
Formation of city water utility	No	01-Apr-2017	

Description of Covenant

Formation of Urban Local Body (ULB)-owned city water utility in the form of a Special Purpose Vehicle (SPV) in Hubballi-Dharwad before end of start-up period of the operator contract

Name	Recurrent	Due Date	Frequency
Delegation of powers	No	30-Nov-2016	–

Description of Covenant

Delegation of suitable powers to ULBs, KUIDFC, SPVs and the Project Operator within six months from the commencement of the start-up period of the Operator Contract

Name	Recurrent	Due Date	Frequency
Government Order to enable financing of ULB's share of capital expenditure	No	31-Aug-2016	–

Description of Covenant

Government order issued to enable the raising of financial contribution by or on behalf of the ULB in Hubballi-Dharwad to finance a part of the capital expenditure under the Project

Name	Recurrent	Due Date	Frequency
Transfer of SFC untied grants	Yes	-	Annual

Description of Covenant

Transfer of adequate amount of untied grants from the SFC to the debt-service escrow account of the ULB in Hubballi-Dharwad from 2016-17 on a recurring basis to meet debt service and principal repayment.

Conditions

Source of Fund	Name	Type

Description of Condition

Team Composition

Bank Staff

Name	Title	Specialization	Unit
William D. Kingdom	Lead Water and Sanitation Specialist	Team Leader (ADM Responsible)	GWADR
Srinivasa Rao Podipireddy	Senior Water and Sanitation Specialist	Co-Task Team Leader	GWADR
Rajesh Balasubramanian	Senior Water and Sanitation Specialist	PPP Specialist	GWADR
Victoria Hilda Rigby Delmon	Senior Counsel	Lawyer (PPP)	GWADR
Vikram Raghavan	Lead Counsel	Lawyer	LEGOP

Krishnamurthy Sankaranarayanan	Senior Financial Management Specialist	Financial Management Specialist	GGODR
Arun Kumar Kolsur	Senior Procurement Specialist	Procurement Specialist (ADM Responsible)	GGODR
Harinath Sesha Appalarajugari	Senior Environmental Specialist	Environmental Specialist	GENDR
Suryanarayanan Satish	Senior Social Development Specialist	Social Development Specialist	GSURR
Sona Thakur	Senior Communications Officer	Communications Specialist	SAREC
Kullappa Mariappa	Senior Water and Sanitation Specialist	Communications Specialist	GWASS
Vandana Bhatnagar	Senior Institutional Development Specialist	Institutional Development Specialist/Low Income	GWASS
Ravi Kumar Joseph	Senior Institutional Development Specialist	Sanitation Specialist	GWASS
Abdu Muwonge	Senior Urban Specialist	Economist	GURRDR
Mili C. Varughese	Operations analyst	Economist	GWASS
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Non- Bank Staff			
Name	**Title**	**Office Phone**	**City**
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Anand Jalakam	Consultant/Technical and PPP		Bangalore
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Fred Krantz	Consultant /Procurement Specialist		Washington, DC.
Ramachandran R. Mohan	Consultant/ social development and safeguards		Delhi
Venkata Rao Bayana	Consultant/ / social development and safeguards		Hyderabad

I. STRATEGIC CONTEXT

A. Country Context

1. India has been one of the fastest growing economies during the last decade. Between 2004 and 2011,[1] gross domestic product expanded at a rate of 8.3 percent per year while poverty declined by an average of 2.5 percentage points per year, a pace significantly faster than earlier periods. Poverty reduction was supported by higher economic growth and greater responsiveness of poverty to growth, including through the expansion of social programs. Increases in non-farm wage employment, especially in construction, greater rural-urban integration, and higher rural wage growth were among the key drivers. However, in the more recent period since 2012, a slowdown in rural real wage growth and volatility in construction activity may have had a sobering effect on the pace of poverty reduction. At the same time, acceleration of growth to 7.3 percent in 2015, if sustained, may lead to further gains for the poor. Maintaining the growth momentum and increasing the responsiveness of poverty reduction to growth are India's key challenges going forward.

2. India's 12th Five-Year Plan (2012–2017) calls for major investments in infrastructure, including water and sanitation, as one of the pathways to increased growth and poverty reduction. According to the United Nations, India's urban population will increase from 288 million in 2000 to 590 million by 2030, a 2.4 percent annual increase. This massive urban transformation defines India's fundamental opportunities and challenges: to respond to the demands of an additional 10 million urban dwellers each year and provide them with adequate public services and infrastructure in an environmentally and financially sustainable manner. At the same time, it is estimated that the annual economic impacts of inadequate water supply and sanitation (WSS) in India is about INR 2.44 trillion (US$53.8 billion) or 6.4 percent of India's gross domestic product in 2006.[2] This means an annual loss of INR 2,180 (US$48) per person. Improving access to water and sanitation services is therefore a development priority for India.

3. The state of Karnataka encompasses 30 districts with a population of 61 million (2011). Around 219 Urban Local Bodies (ULBs), in addition to Bangalore city, the capital, together comprise 38 percent of the total population. The urban population has grown by 31 percent over the last decade.

B. Sectoral and Institutional Context

4. Today, not a single metropolitan city in the country provides its residents with continuous water supply – a situation that will only be exacerbated by the rapid pace of urbanization in the country. The Service Level Benchmarks compiled by Ministry of Urban Development show that coverage of house service connections average around 50 percent whilst pressurized supplies are typically 1-6 hours per day. On average only 40 percent of operating costs are recovered from user fees[3]. The poor quality of service particularly affects the poor, women and children. The poor are

[1] This period included the global financial crisis in 2008.
[2] WSP (Water and Sanitation Program). 2007. *The Economic Impacts of Inadequate Sanitation in India.* WSP: World Bank, Delhi.
[3] Service Levels in Urban Water and Sanitation Sector, Ministry of Urban Development, Government of India, March 2012

typically not connected to the pipe system and have to pay significantly higher prices to purchase water from private vendors. Where service is poor it is women and children who bear the cost of coping with the current intermittent supply situation by spending time collecting water from public standposts or waiting for hours for water to arrive. This adversely impacts women's economic opportunities and school attendance by children. When water borne illness strikes a family this directly impacts family earnings and also places further burdens on the women who care for the sick.

5. Countries in East Asia and Latin America fare much better in delivery of water services. Table 1 compares indicators of utility performance and service levels in India with those in other countries.

Table 1: Comparison of service level indicators

	India	Brazil	China	Vietnam	Cambodia
Continuity (hours per day)	5.2	24	24	22.7	24
Operating Cost Coverage Ratio (%)	55	144	76	168	236
NRW (m^3/ km/ day)	119	33	37	40	8
Water sold that is metered (%)	39	94	100	100	100
Staff per 1000 connections	0.9	-	1	1.1	0.5

Source: IBNET Water Supply and Sanitation Blue Book 2014[4]

6. In India water and sanitation (WSS) are State subjects where, typically, roles and responsibilities of different actors are unclear and/or overlapping. State WSS Departments set policies on quality of service and cost recovery, supply grant funds to ULBs and act as regulators of the WSS services. At the same time, while ULBs are responsible for the WSS services as per the Constitution (74th Amendment) Act 1992, infrastructure is often developed by State WSS Engineering Agencies (SEAs). In most cases SEAs create infrastructure that is handed over, once completed, to the ULBs who may or may not have the financial and technical capacity to manage those assets. SEAs can also operate schemes where ULBs are ill equipped or unwilling. This results in poor performance due to i) lack of clear lines of accountability – with no single entity being responsible for delivering a good quality service to residents ii) weak incentives to perform, as poor performance can be blamed on others, and a public service model which cannot reward superior achievements; iii) poor financial situation of providers which results in inadequate maintenance, leading to further deterioration of service and inability to improve/expand services; and iv) weak technical capacity which means staff are not able to tackle many of the endemic issues that might otherwise lead to improved performance.

7. The Government of Karnataka (GoK) has acknowledged this challenge and has undertaken significant efforts to improve urban WSS (UWSS) service levels, including making large investments and carrying out specific reforms. GoK formulated a Policy on Urban Drinking Water and Sanitation in 2002. The policy identifies appropriate institutional mechanisms, tariff frameworks for commercial sustainability and the role of private sector in service delivery. Through the successful World Bank-financed Karnataka Urban Water Supply Improvement Project (KUWASIP) in select wards of the cities of Belagavi, Kalaburagi and Hubballi-Dharwad

[4] Danilenko, Alexander, Caroline van den Berg, Berta Macheve, and L. Joe Moffitt. 2014. The IBNET Water Supply and Sanitation Blue Book 2014. Washington, DC: World Bank.

(serving some 10% of the population), the GoK was able to demonstrate that continuous and reliable piped water supply was technically feasible, that the private sector could play a positive role, and that consumers were willing to pay on a volumetric basis for a good service. This project (P082510 - Karnataka Urban Water Sector Improvement Project) closed in March 2011 with satisfactory outcome rating. The key results from the demonstration zones (select wards where the project was implemented), as captured in the project's ICRR are given in Table 2.

Table 2: Key results from the demonstration zones

Indicators	**Outputs under previous intermittent supply**	**Outputs under 24X7 supply**	**Outcomes**
Water Supply service level	2 hours in three days	24X7 – continuous	Water supplied through network at all times
Quantity of water supplied in demo zones	22.14 MLD	18.40 MLD	Broke the myth that continuous water supply needs more bulk water supply – reduction in leakages and water conservation led to reduced need under the 24X7 regime.
Average pressure in the network	Less than 0.5 m head	17.7 m head	Water is now delivered to the overhead tank in the second floor of a house directly. No need to lift water, thus saving energy charges at the household level.
Number of public fountains in demo-zones	433 No.	0 (none)	All households now have water connections. No more drudgery in collection of water; or loss of employment due to long waiting hours at stand posts.
Loss of water (non-Revenue Water)	About 50%	About 7%	Efficient delivery of water – more revenue water mean increased water available at the consumer end
Customer services	Non-existent	24X7 Customer care center	Assured and dependable water services

8. The success of KUWASIP elicited demand from citizens and their representatives to expand the pilot. It thus provides a very strong basis for scaling-up the project to cover all the three cities but also allows for the introduction of additional elements which will further the reform process. These include i) ULB financing a part of the capital expenditure to create more ownership to the reform process; ii) an incentive framework for Private Operator to optimize capital expenditure while continuing to deliver sustainable services thus ensuring the most cost-effective solutions are revealed and iii) creation of a long-term institutional framework with a more central role for the ULB in project implementation, thus further building local ownership and supporting long term sustainability.

9. More recently, the GoK has been working with funding institutions and using its budgetary resources to further improve water supply services across several cities Mysuru, Ilkal, Raichur, Ballari and Hospet. Complementing this state level initiative the Government of India has recently announced programs like the Atal Mission for Rejuvenation and Urban Transformation (AMRUT) which covers 500 cities with more than one lakh population and the SMART Cities program to

significantly scale-up the coverage and quality of urban infrastructure in cities. These programs also seek to utilize the Public Private Partnership (PPP) models and innovative financing approaches to meet the investment requirements. The project therefore supports the broad thrust of these programs.

10. Partnering with the private sector, however, requires careful attention to project design. Global experience of PPP in urban water supply suggests that success very much depends on the local context and the contract conditions. While PPPs did reasonably better in improving service quality and operational efficiency, they were less successful in attracting private financing. Similarly, PPPs were better at improving access to service when private financing was complemented with public financing.[5] The rich global experience of PPP in urban water supply indicates that there is no 'one size fits all' approach and that each situation demands an approach tailored to the needs and possibilities of consumers and governments.

11. The focus of PPPs in the Indian urban water sector in the recent years has been on improving service delivery, unlike the PPPs during the 1990s which focused on bulk supply augmentation. A recently published report on the review of five PPP projects in urban water sector in India identified lack of reliable data, focus on replacement rather than on asset rehabilitation, absence of balanced assessment and treatment of risks, projects not matching the financial capacity of the ULBs, poor ULB capacity for contract management, and inadequate focus on institutional sustainability as the key factors that have impeded success of PPPs[6]. The KUWSMP has taken cognizance of these challenges during the design of the Project by encouraging optimal asset management, based on ever improving knowledge about the systems, by creating strong but fair incentives for the private sector to perform, and by building a long term institutional arrangement where assets remain in the ownership of the municipality but with an SPV responsible for managing service delivery arrangements.

C. Higher Level Objectives to which the Project Contributes

12. The Project is fully aligned with the Bank's Country Partnership Strategy (CPS) 2013–2017 for India. It supports the CPS's Strategic Engagement Area 2 (Transformation) whose outcome 2.3 focuses on making India's cities more livable by strengthening governance and institutional arrangements for WSS services; piloting service delivery models that are efficient, accountable, and customer oriented; and improving financial sustainability of providers. As per the CPS, the Project will be working in an advanced state to test innovative and transformative initiatives, in line with the government's approach to working with multilateral institutions—the so-called 'Innovation Impulse with Investment'. Finally, the Project will support two of the three CPS's overarching goals of reducing poverty and increasing shared prosperity. Improving water supplies from intermittent to continuous supply enables productive use of time otherwise spent on collecting water and this particularly benefits women and children. In addition, the improved water quality derived from a continuous piped supply reduces the vulnerability of poor households and

[5] Public-Private Partnership for Urban Water Utilities – A review of experiences in Developing Countries, Philippe Marin, World Bank, 2009,

[6] Running Water in India's Cities: A Review of Five Recent Public-Private Partnership Initiatives, WSP, World Bank, 2014

improves their living standard by reducing health costs and lost income resultant from water-related illnesses.

II. PROJECT DEVELOPMENT OBJECTIVES

A. Project Development Objective

13. The project development objective (PDO) is to provide city-wide access to a continuous piped water supply in eligible cities in the state of Karnataka and to strengthen service delivery arrangements at the city level.

14. An eligible city is one that the Bank and Karnataka agree satisfies eligibility criteria outlined in the Operations Manual including fiduciary and safeguard requirements and the award of a performance-based contract to a project operator.

B. Project Beneficiaries

The Loan will finance Project activities in or related to an eligible city. As of February 29, 2016, the Bank and Karnataka have determined that Hubballi-Dharwad qualifies as an eligible city and the contract is expected to be signed in due course.

15. Consequently, the Project will benefit a population of some 1 million in Hubballi-Dharwad where 34,000 households live in slums and a substantial portion of whom earn less than Rs. 100 per day. A substantial proportion of households in slum areas rely on standposts as their primary means for water collection. The Project aims to provide house connections to all who want them regardless of income level and housing status. Connection policies will facilitate piped access to poor households (and those living in properties of less than 600 square feet), with waivers on connection fees and connection charges.

16. The two cities of Kalaburagi and Belagavi have also been subject to extensive evaluations by the Bank team in parallel with those for Hubballi-Dharwad. The process for awarding performance-based contracts in these cities is expected to be completed by December 31, 2016. Karnataka may seek additional Bank financing through Government of India for activities in or related to these cities as soon as this process is completed.

C. PDO Level Results Indicators

17. The achievement of the PDO will be monitored in each eligible city using the following indicators:

(a) Direct project beneficiaries (number),[7] of which female (percentage), and below poverty line (percentage)

(b) Operations escrow account functioning without a continuing breach of covenants during the reporting year (number)

[7] People receiving continuous water supply.

(c) Public-private Partnerships (PPP) for water service delivery awarded and functioning (number)

(d) Establishment of operational city-owned Special Purpose Vehicle (SPV) responsible for water services (number)

III. PROJECT DESCRIPTION

A. Project Components

18. The Project design incorporates changes to both the current institutional and service delivery arrangements in each city toward a goal of greater sustainability and improved service quality whilst ensuring assets remain in the ownership of the ULB. Two changes in particular set the context within which the Project financial support is provided and are discussed further in section IV.C.

(a) Each eligible city will establish a ULB-owned water utility (an SPV) to be responsible for water services in the city thus providing clearer accountability at the local level and facilitating a well-managed exit strategy at the end of the PPP contract.

(b) Each eligible city will enter into a twelve-year contract with a private operator. The performance-based contract comprises a one-year period for planning (start-up period), a three-year investment period to transition to continuous supply and build a well-run utility (transition period) and an eight-year period for ongoing service delivery with continuous supply (sustaining period). This model creates long-term incentives to deliver optimal outcomes for the cities within a framework that provides flexibility to respond to better information revealed during the early years of the contract. The ULB operates the system during the start-up period and private operator take over operations from the beginning of the transition period.

19. The Project will finance, among others, physical investments in the water supply system to facilitate continuous water supplies (Component 1) along with the systems, procedures, and equipment that will build the institutions to sustainably deliver those improved services (Component 2). The Asian Development Bank (ADB) is financing a North Karnataka Urban Sector Improvement Program (US$440 million) to address sanitation gaps; hence, sanitation investments are not proposed under the Bank Project.

Component 1 - Capital Investment Program (US$133.75 million)

20. **Capital Works.** These include bulk capacity augmentation; enhancing capacity or resilience of transmission/feeder mains; treatment plant renovations/capacity enhancement; pump station upgrades; service reservoir improvements; distribution network sectorization; pipeline rehabilitation/replacement; water meters for bulk supplies and consumer consumption; replacement of house connections; and new connections to low-income households.

21. **Service Improvement Plan** The private operator will prepare and implement a Service Improvement Plan (SIP), which will set out the needed investments for capital works, utility

systems, and equipment. The initial SIP will be prepared during the start-up period and will be updated annually to capture new and better quality data. An expert reviewer will advise on the suitability of, and any amendments required to, the SIP. The SIP will be approved by the ULB and the project implementing agency, the Karnataka Urban Infrastructure Development and Finance Corporation (KUIDFC).

22. **Construction management.** The private operator will act as the client's construction manager for implementing the SIP and will contract with third-party contractors for delivery of the agreed capital works, systems, and equipment. A technical auditor will certify payments to be made by the construction manager.

Component 2 - Institution Building (US$9.0 million)

23. **Fifty (50) percent of the operator fees during the transition period.** To minimize financial burden on the ULBs, the Project will finance 50 percent of the operator fee during the transition period covering the costs for routine operation of the system, the costs of additional staff training, capacity building, and additional operating costs (especially for leakage control) to stabilize service delivery.

24. **SPV setup and operations.** The ULB will need to operationalize the SPV and this will be financed by the Project including for (a) preparation of institutional staffing, training, and delegation plan; (b) office equipment; (c) staff training costs; and (d) incremental operating costs during the Project period.

25. **Systems and equipment for the utility.** The Project will also finance all the systems and equipment needed to establish a well-run utility at the city level. This will include computer systems (Management Information System [MIS], Geographical Information System [GIS], billing and collection, call center, Computerized Maintenance Management System [CMMS]); standard operating procedures operational equipment (leak noise correlators and workshop equipment); and vehicles (trucks, cars, and motorbikes).

Component 3 - Technical Assistance for Sector Development (US$2.0 million)

26. The Project will support activities aimed at strengthening impact evaluation and social accountability for urban water sector in the state:

(a) **Project impact evaluation.** This will assess the impact of providing continuous water supplies at both the household level and the city level.

(b) **Improving social accountability.** This will support implementation and routine capture of consumer feedback on the quality of WSS services provided by private operator in the eligible city and make it available online for easy access by all stakeholders.

(c) **Improved dam management.** Update or prepare dam operations and maintenance (O&M) plans and emergency preparedness plans (EPPs) for dams under the Project to meet requirements under the Bank's policy Safety of Dams (OP 4.37).

Component 4 - Project Management (US$ 8 million)

27. This component finances activities to ensure efficient and effective project implementation. This includes, for example, equipment to establish Project Management Unit (PMU)/Project Implementation Unit (PIU) offices, consultants to support technical evaluations, third-party monitoring, expert reviewer, safeguards, and fiduciary auditing, construction quality assurance, stakeholder communications and others.

B. Project Cost and Financing

28. The project cost and financing, by component, are summarized in Table 3.

Table 3: Project Cost and Financing (US$, millions)

	Hubballi-Dharwad			KUIDFC		Total	Financing Share		
	WB	GoK	ULB	WB	GoK		WB	GoK	ULB
Component 1	94.25	-	39.50	-	-	**133.75**	94.25	-	39.50
Component 2	3.00	3.50	-	0.50	2.00	**9.00**	3.50	5.50	-
Component 3	-	-	-	0.50	1.50	**2.00**	0.50	1.50	-
Component 4	-	-	-	1.50	6.50	**8.00**	1.50	6.50	-
Total Project Costs	**97.25**	**3.50**	**39.50**	**2.50**	**10.00**	**152.75**		-	-
Front End Fee	**0. 25**					**0.25**	0.25	-	-
	97.50	**3.50**	**39.50**	**2.50**	**10.00**	**153.00**	**100.00**	**13.50**	**39.50**

C. Lessons Learned and Reflected in the Project Design

29. The Project builds on lessons learned from the earlier KUWASIP, including that (a) customers are willing to pay for water on a volumetric basis if services are good; (b) all customers can have access to a piped house connection; and, (c) partnering with the private sector can be successful. The project design introduces universal metering, removes barriers to securing a piped house connection, and enter into contract with a private operator.

30. KUWASIP also demonstrated the importance of integrating communications and stakeholder outreach into project design and implementation. Sustained two-way communications with stakeholders, especially citizens, helped identify and address stakeholders' concerns as well as facilitated behavior change in users needed to optimize benefits from a 24/7 water supply (such as linking their individual houses to the city network, careful water usage, or maintaining payment discipline etc.). The consultation process adopted in project preparation has built support for the Project amongst a range of stakeholders and has culminated in the adoption of a Council Resolution by the elected body in Hubballi-Dharwad supporting the core project design. An on-going communication strategy will seek to ensure that affected households and other stakeholder groups are involved in the implementation phase of the Project as well. Similar council resolutions have been passed in Kalaburagi and Belagavi.

31. International studies have shown that the key characteristics of well-run water utilities include increased financial and managerial autonomy, accountability, market incentives, and customer orientation. The project design supports these characteristics by improving financial sustainability at the ULB level, supporting the creation of ULB-owned water utility structured as

an SPV, delivering service through performance-based contract arrangements with private operator, and introducing enhanced customer outreach.

32. The KUWASIP demonstrated that 24/7 water supply is possible through replacement of all network pipes but this may be an expensive solution for city-wide replication. At the same time, poor information on asset quality and performance creates uncertainty and encourages full replacement of distribution system, thereby not achieving cost efficiency. Contracts must have the flexibility for mid-course corrections as more information is revealed. The PPP contract design allows for such flexibility through annual updates of the SIP and the introduction of 'gain share' arrangements to incentivize private operator to reveal the boundary of efficient practices.[8]

33. Water service is primarily a local issue in India and project ownership by ULBs is critical. The project design builds such ownership in Karnataka's project cities through widespread engagement of ULB in the service delivery process, including the establishment of an SPV, financing 26 percent of the capital costs, and backstopping escrow accounts set up to manage the funds for operations and debt service.

34. The evolving experience of PPPs in water supply and sanitation in India highlights the negative consequences of poorly prepared contracts, overly optimistic expectations, unrealistic targets, aggressive penalty regimes, inadequate attention to contract supervision, and lack of an exit strategy. The project design incorporates approaches to reduce the risk of project failure related to these past experiences.

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

35. The KUIDFC, which manages a range of urban infrastructure development projects for the GoK, will manage project implementation on behalf of the eligible city. It has established a PMU under a full-time project manager who will be responsible for the day-to-day project management, progress monitoring and reporting, procurement activities, and financial management. The managing director (MD) of the KUIDFC will be the head of the PMU to facilitate faster decision making.

36. The KUIDFC has established a PIU for Hubballi-Dharwad, which will oversee the day-to-day activities of the Project at the city level and will report to the PMU within the KUIDFC and to the ULB. The municipal commissioner is the head of the PIU, thus ensuring good coordination and information flows to the ULB.

37. An Empowered Committee has been established under a government order that will guide the Project and has representation from key departments involved in the Project, including Urban Development, Planning, and Finance. The Chair is the additional chief secretary to the GoK, the KUIDFC is the secretariat, and the MD of the KUIDFC is the member secretary.

[8] Share of the savings in capital expenditure and reduction in energy consumptions that will be payable to the private operator. Please refer to annex 2 for a detailed explanation of the gain share arrangement.

38. The KUIDFC will manage the overall safeguard management activities of the Project with the help of environmental and social safeguard specialists (one each). At the city level, professionals with environmental and social expertise with the PIU will ensure the implementation of safeguard measures.

39. The ULB-owned water utility (SPV) will be established under the Companies Act, 2013, with responsibility for water services in the eligible city. The SPV will report to the ULB. Under the performance-based management contract, the ULB has various responsibilities to certify achievement of contract milestones, service delivery performance, and capital works payments. The contract allows for such actions to be delegated to the SPV. By the end of the Project period, it is anticipated that all such certification activities will be delegated to the SPV, thus setting up the long-term institutional arrangements for the city. An institutional study will be initiated (under Component 2) within six months from commencement of the start-up period to guide the institutional, financing, staffing, training, and delegation plan for the SPV.

B. Results Monitoring and Evaluation

40. In the eligible city, the PMU/PIU will monitor the performance of the private operator and ensure that results are being achieved in line with the indicators set out in the Results Framework. The PPP contract monitors many of the indicators in the results matrix which are certified by the contract's technical auditor.

41. The project design includes an Impact Evaluation/Benefit Assessment of moving a whole city to continuous piped water supply. Traditional benefit assessments have focused at the household level but this study will assess the benefits at the city level. It will help understand, for example, whether more free time, healthier residents, and less absenteeism lead to a more productive city; whether school attendance and results improve if children spend less time collecting water; whether better water quality leads to better health outcomes at the city level; and whether property prices and property tax revenues improve.

42. Social accountability will be strengthened under the Project through the adoption of information and communication technology (ICT) based tools (SLB Connect) for improved efficiency, accuracy, and transparency by capturing citizens' perspective on the service improvements. The results will be made publicly accessible online through city-level dashboards.

C. Sustainability

43. Achievement of the PDO requires that special attention be paid to the issue of sustainability. A number of project design elements will support this objective:

- Institutional sustainability will be initiated through the creation of ULB-owned water utilities (SPV) with responsibility for ensuring water services are provided to city residents. As a company, the SPV will be subject to improved transparency and governance with well-defined responsibilities for the directors and clear financial reporting and auditing requirements. Over the course of the Project, the capacity of the SPV will be built and the ULB will delegate more responsibility to them.

- Sustainable service delivery will be more likely if entrusted to an entity with sufficient autonomy, accountability, and incentives. This will be achieved by delegation of service delivery to the private operator through a twelve-year contract. The contract will specify performance standards required of the private operator, hold them accountable for delivery of those standards within a clearly defined time frame, and provide them access to the capital resources required to invest in a cost-effective manner. The private operator's fee includes a performance element of between 20 percent (transition period) and 40 percent (sustaining period).

- Financial sustainability requires that the SPV can finance itself and the private operator from user fees and other water-related financing streams. At the end of the Project, it is projected that every year thereafter, until the end of the PPP contract, such revenues will be sufficient to finance the costs of the private operator and the operating costs of the SPV. While it is assumed that the SFC grants linked to electricity charges and staff salary costs shall continue, the ULB shall strive to achieve full recovery of O&M costs.

- Sustainability is enhanced if the ULB demonstrates some financial commitment to the Project and can meet the associated obligations. In this case, the ULB will finance 26 percent of the capital works and allocate 35 percent of untied State Finance Commission (SFC) grants toward debt service.[9] Two escrow accounts (an 'operations' account and a 'debt service' account) will be set up to channel funds for their intended purposes and the ULB has agreed to maintain related key financial ratios.

- Financial sustainability requires that costs and revenues be optimized. The PPP contract includes an innovative gain share arrangement to deliver a capital efficient solution to achieving continuous piped water supply in a sustainable manner and to reduce energy costs, which are otherwise a cost passed through to the private operator. Targets for revenue collections are part of the performance payment framework for the private operator.

- Underpinning the above actions is the need to build support for the project design with customers, members of the elected council of the ULB, and civil society. This was a key lesson learned under the earlier project. Project preparation included the development of a strategic communication program based on surveys of more than 10,000 households, focus group discussions, and targeted consultations with key interlocutors.

V. KEY RISKS AND MITIGATION MEASURES

A. Systematic Operational Risk Rating Tool (SORT) Matrix

Risk Category		Rating (H, S, M, L)
1.	Political and Governance	Moderate
2.	Macroeconomic	Low
3.	Sector Strategies and Policies	Substantial

[9] According to Government Order No. UDD 244 PRJ 2013, Bangalore, dated 7th November 2013.

4.	Technical Design of Project or Program	Substantial
5.	Institutional Capacity for Implementation and Sustainability	Substantial
6.	Fiduciary	Substantial
7.	Environment and Social	Moderate
8.	Stakeholders	Substantial
9.	Other	–
10.	Overall	Substantial

B. Overall Risk Rating and Explanation of Key Risks

44. The Project builds on the success of the earlier KUWASIP but significantly deepens and broadens the scope of reforms both institutionally and financially. Outreach activities to a wide range of stakeholders have been undertaken during preparation and will continue during implementation but there is still the chance of some opposition to the approach. ULB buy-in will only be fully revealed as project implementation proceeds as too will customer acceptability of the move to volumetric charging at the city scale. The PPP contract has been designed carefully but the full scope of the technical challenges may only surface once the bid process has been completed and the private operator is in place and managing the system. The ULB counterpart funding is planned to be mobilized from a bond issue. A conditional A+ (structured obligation) credit rating has been provided by ICRA Limited, but the finance will only be mobilized during project implementation. Likewise, although the by-laws for the creation of the SPV have been drafted, operationalizing the SPV may face unseen obstacles. Taken together, the risk of delays and setbacks is substantial.

C. Risk Mitigation

45. Formation of a fully staffed water utility which is accountable to the ULB is a key mitigation measure for strengthening implementation capacity along with support from the expert reviewer and technical auditor. Contractual arrangements such as escrow accounts will foster financial discipline in management of SPV-level finances and debt repayment. Extensive communication, public reporting of performance, seeking customer feedback, and outreach activities need to be implemented to sustain stakeholder support.

VI. APPRAISAL SUMMARY

A. Economic and Financial Analysis

Economic Analysis

46. **Rate of return and net present value.** The Project will generate substantial economic, environmental, and social benefits. These benefits (direct and indirect) include increased revenue from water connections; increasing property values; reduced NRW; and reduction in coping costs for Project beneficiaries. There are health benefits expected from reduction in waterborne diseases due to improved water quality. Assuming that project investments have a life of 30 years, the analysis shows that proposed water supply investments will generate a rate of return of 16.3 percent and a net present value of US$93 million.

47. **Poverty and shared growth impacts.** Lack of infrastructure disproportionately affects the poor and lower-income groups. In the absence of continuous safe piped water supply, the poor and low-income groups are at a greater exposure risk to waterborne diseases and face high health costs and coping costs. Based on the latest available district-level poverty estimates from the National Sample Survey (NSS),[10] it is estimated that approximately 16 percent of the population in the Project area is poor and the Project will benefit the poor directly. This translates to US$2.5 million worth of annual savings for approximately 34,000 poor households.

Financial Analysis

48. Two escrow accounts will be established to manage the debt servicing obligation of the ULBs (the debt service escrow account) and the payments of the private operator' fees and the operating costs of the SPV (the operations escrow account).

49. Good practice requires the Debt Service Coverage Ratio (DSCR) to be above 1.1 in any year and on an average around 1.25. Taking into account the inflows to the debt service account (SFC grants) and outflows (debt and interest payments) and the accrued inflows from 35 percent SFC untied contribution the average debt service coverage is above 1.4 in most years for Hubballi-Dharwad except for a small negative balance in the ULB's Water Account between year 8 and year 10 of the operator contract, which needs to be addressed by the ULB. The initial financial analysis shows that the operations escrow accounts Hubballi-Dharwad will need support during the transition period to meet operational expenses.

50. In response to this finding, the Project will finance half of the operator fees during the transition period to reflect the higher costs at that time as the private operator undertake a restructuring and reorientation of the service delivery arrangements. The result is that the operations escrow accounts remain cash positive up to the end of the operator contract.

51. Sensitivity analyses highlight the relative fragility of the situation. A 10 percent reduction in the number of projected connections reduces average Earnings Before Interest Depreciation and Amortization (EBIDTA) of the operations account during the sustaining period, from 8.3 percent to 1.9 percent in Hubballi-Dharwad. An increase in capital costs by 10 percent reduces average DSCR to 0.7 in Hubballi-Dharwad.

52. While not ideal, these projections show a much-improved situation compared to today. The Project is initiating a break from the current spiral of poor service delivery and inadequate financial resources. Because of the Project, it is expected that revenues from user fees will increase substantially as each city moves from flat-rate charging with low levels of collection efficiency to a volumetric charging basis with high levels of collection efficiency. User fees currently cover less than 25 percent of operating costs and this will improve to 74 percent of operating costs in the short term, post transition, with the remaining deficit being filled from predictable and adequate SFC grants.

53. Increasing transparency and reporting of financial performance is expected to generate a new dynamic. Stakeholders will begin to understand the true costs and revenues associated with providing this essential service and at the same time appreciate the benefits of receiving a good

[10] Karnataka State Annual Plan 2014–15 (District-level estimates of poverty based on NSS 68th round [2011–12]).

service. Taken together, this will encourage improved financial management (FM) of the sector where a number of options under the control of the ULBs exist to improve and stabilize financial performance.

54. Similar financial analysis has been carried out for Kalaburagi and Belagavi.

B. Technical

55. Detailed feasibility study reports determined the capital investments needed up to the end of the operator contract to deliver a continuous water supply and to bring down leakage to a low level. Such studies have been completed for Hubballi-Dharwad and the other two cities. These reports covered new investments and rehabilitation in bulk supply, raw water transmission systems, water treatment plants, treated water transmission systems, reservoirs, distribution networks, and house service connections, each with a water meter. There are many uncertainties in the existing supply systems, which will only be revealed once the private operator starts managing the system and consumers use water that is charged on a volumetric basis. These include issues on water demand, the condition, and performance of the existing assets, and the pipe networks. There will also be opportunities to optimize the use of existing systems. Overall, the proposed investments and cost estimates are considered realistic.

56. The computer systems, operating procedures, and equipment to deliver water services in each city are weak or nonexistent. The operator contract therefore includes the preparation of written operating procedures and the specification and procurement of required systems and equipment. Needs assessments were prepared by consultants and are considered appropriate to build a well-run utility during the transition period.

57. The design of the operator contract recognizes many of the uncertainties on the ground. Some key points in the design include the following:

(a) A balance between penalties and incentives in delivering the required performance standards. The private operator has a financial incentive to deliver faster and to a better standard. If they fail to deliver, they risk losing their margin and a part of their fixed costs. However, persistent underperformance will be a cause for contract termination.

(b) The approach to delivering cost-effective 24/7 water supply on time depends on what the private operator finds when they take over the system and how innovative they are in delivering improved service. The operator contract therefore includes a gain share approach to encourage efficiency in the use of capital, which is otherwise a pass-through cost for the private operator. Gain share payments are subject to achievement of continued quality of service during the sustaining period.

(c) A gain share model is adopted for energy consumption which, like the capital expenditures, is a pass-through to the private operator, who therefore need incentives to encourage efficiency.

(d) The role of the private operator as construction managers is an innovation intended to speed up project implementation and provide a single-point accountability for the

transition to continuous supply. Overall, the contract design is balanced with an appropriate risk allocation between the parties.

58. The term of the PPP contract is twelve years, comprising a one-year start-up period, three years of transition to continuous supply, and eight years of sustaining the improved service. The ULB continues to operate the system until the end of the start-up period when the private operator takes over. Given the uncertainty of the upgrade path, the transition period is considered aggressive but possible. To provide flexibility during implementation, the incentive framework recognizes the challenge of the transition and gives some limited leeway to the private operator. Failure to deliver beyond that leeway will lead to loss of performance-related payments and, in the event of persistent failure, to contract termination.

59. Operationalizing the SPV is critical to establishing post-project oversight arrangements for the private operator and ensuring that good long-term planning takes place. The Project will finance setting up of the office, training of the staff, and the incremental operating costs of the SPV.

C. Financial Management (FM)

60. The KUIDFC as the key implementing agency for the Project is well-versed with the accounting and reporting requirements of the Bank[11] and has functioning FM systems which meet the requirements of the Project and the Bank reporting. All payments and contract management will be handled by the KUIDFC except payments for works contracts that will be made through a special third-party contract account to be managed by the private operator (as construction manager) with replenishments into this account controlled by the KUIDFC, subject to adherence of required conditions by the private operator. The Project FM risk is kept as 'Substantial' due to the introduction of the new arrangement of routing payments through the construction manager to have single-point accountability for works contracts. The overview of the agreed Project FM arrangements is outlined below while the detailed FM assessment is provided in annex 3.

61. A budget head '4215-02-190-0-03' has been created for the Project and budget provision made. The amounts will be passed on from the state government budget to the KUIDFC, which will handle the Project funds through project-specific bank accounts, which is in line with other projects handled by the KUIDFC. It follows a double-entry accrual basis of accounting using the Tally software and Project accounts will be maintained in this software.

62. The Accounts Department is managed by the General Manager-Project Finance, who is a chartered accountant and will be assisted by a deputy general manager who is already recruited and other accounting staff (commerce graduates) to be hired for the Project. All financial controls applicable to the KUIDFC expenditures will also apply to the expenditures under the Project.

63. Disbursement based on the Interim Unaudited Financial Report (IUFR) will be used for the Project, which is to be submitted to the Bank on a quarterly basis within 60 days after the end of the quarter. All expenditures reported in the IUFRs will be subject to annual project audit. The Project Financial Statement (PFS) will be audited by a CA firm and needs to be submitted to the

[11] The KUIDFC handles the Bank projects KUWASIP I and Karnataka Municipal Reform Project (KMRP).

Bank within nine months after the end of each fiscal year. The current entity auditor will also carry out the project audit. The audit reports along with the compliance will be shared with the Bank.

64. **Disbursements.** Disbursement will be on reimbursable basis as the state will provide the budget for the project's expenditure. Three disbursement categories are envisaged for the Project, which are outlined in annex 3.

D. Procurement

65. Procurement for the proposed Project will be carried out in accordance with the Bank's 'Guidelines: Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits and Grants' by World Bank Borrowers dated January 2011, revised July 2014 (Procurement Guidelines); 'Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits and Grants' by World Bank Borrowers" dated January 2011, revised July 2014 (Consultant Guidelines); and the provisions stipulated in the Legal Agreement. The Project will be subject to the Bank's Anticorruption Guidelines, dated October 15, 2006, and revised in January 2011.

66. **e-procurement system.** The KUIDFC is using an e-procurement system for all its procurements above the estimated value of INR 100,000, as required by the state government circulars. The Karnataka state e-procurement system (HP system) assessment was carried out against the multilateral development banks requirements and has been accepted for procurement by the Bank.

67. **Procurement capacity assessment.** The Project will be implemented by the KUIDFC through the PMU and PIUs and all procurements (except the proposed capital works and systems and equipment for the utility which will be carried out by the private operator) are envisaged to be carried out by the KUIDFC. The KUIDFC procurement staff has experience in handling procurement functions in accordance with the Bank's policies and procedures, having successfully handled procurement activities under earlier Bank-funded projects. The ULB, however, has limited experience in procurement under Bank-funded projects and did not handle the past KUWASIP transactions, and as such, the procurement staff do not have adequate experience. The PIU will have staff with expertise in procurement and will support the ULB in procurement activities. Over the life of the Project, some of the ULB's procurement responsibilities will be transferred to the SPV, subject to sufficient capacity being in place.

68. During implementation, the private operator will manage the procurement process for capital works and systems and equipment for the utility—acting as the construction manager on behalf of the ULB/KUIDFC. They will be responsible for preparation of bidding documents, evaluation of the bids, awards, and signing of contracts, contract management including payments following Bank procurement guidelines with review by the KUIDFC. The private operator will also be responsible for supervision of such procurements during implementation in their role as construction manager.

69. **Procurement risk assessment:** The Procurement Risk Assessment and Management System (PRAMS) has been carried out and based on the assessment the procurement risk rating is

'High'. Mitigation measures have been built into the project design, which will mitigate the risk rating to Substantial.

70. **Procurement plan and readiness.** The draft plan for procurement to be taken up during the first 18 months of project implementation is enclosed in annex 3. Due to the design of the project, the details of the capital works, systems, and equipment for the utility will be decided only after the private operator is in place.

71. The Request for Qualification (RFQs) for selection of the private operators for all three cities was published between January 30, 2014 and March 1, 2014. The responses were received during June 2014. The evaluation was completed in September 2014 and approval of the Empowered Committee obtained in January 2015. The Request for Proposal (RFP), including the operator contract, was issued to the prequalified bidders in March 2015 and the bids were received in early October 2015. The award of contract to the preferred bidder for one city—Hubballi-Dharwad—has been finalized in February 2016. The process for re-issuing the tender for Belagavi and Kalaburagi is underway and Karnataka is hopeful of finalizing the award of operator contracts for these cities by December 2016 after which Karnataka may seek additional Bank financing for activities in these cities.

E. Social (including Safeguards)

72. Social assessments conducted for Hubballi-Dharwad has confirmed that the Project offers the potential for significant social benefits that will enable potable water supplies within the households for everyone, including the poor and women. This will result in substantial reduction in time spent by women and children in fetching water from a distance, thus reducing the severe drudgery that they otherwise suffer. Further, this will lead to health and hygiene benefits and, consequently, reduction in medical expenditures on water-related diseases and associated income losses. There are a few adverse impacts, which, however, are not significant and are easily manageable. Key issues in this context relate to (a) temporary disturbances to the households while laying pipelines restricting ease of access as well as limiting water supplies from the existing sources; (b) project's interface with the local communities warranting an effective information, education, and communication campaign; (c) responsible and responsive grievance redressal mechanism; and (d) obtaining certain parcels of private land that is required for construction of assets. The first three issues have been addressed as a part of the project's institutional and implementation arrangements, the issue of land falls in the realm of 'safeguards'.

73. The Project does require land for (a) water source—ground and/or surface sources; (b) pipelines –transmission/feeder mains as well as distribution networks; (c) pumping stations and a service reservoir; and (d) treatment plants. Given that water sources are already established and that the pipelines are laid, at least 90 cm below the ground, no parcels of land are to be secured. However, permission from the landowners for laying pipelines will need to be obtained. With respect to the remaining, land is essential. The overall requirement of land in Hubballi-Dharwad is estimated at about 6 ha, of which 5 ha belongs to the government and is free of encumbrances. Thus, private land requirement works out to 1 ha across three land parcels. As the requirement is quite small, the Project is exploring purchase of lands at a negotiated price if the landowners are willing. While the total land requirement is rather definite, exact location for housing a facility will be known only after the preparation of an SIP, including the detailed designs for the civil works

(including hydraulic modelling), which will be done within nine months of the commencement of the start-up period. However, the option of involuntary acquisition is retained to address any unforeseen situation. With this in view, OP 4.12 on Involuntary Resettlement is triggered. Given this, it has been decided to adopt a framework approach, that is, a Resettlement Policy and Framework (RPF). OP 4.10 has not been triggered as there are no tribal habitations with unique sociocultural identity in relation to the mainstream population in the Project areas as revealed by the Sectoral Environment and Social Assessment (SESA) studies in the project cities.

74. **Resettlement Policy and Framework.** The RPF has been prepared following the provisions of OP 4.12 and the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 (RFCTLA&RR). This shall be adopted during implementation as and when private lands are to be acquired involuntarily and a Resettlement Action Plan (RAP) will be prepared. The salient features of the framework include compensating the affected properties with replacement cost; assisting the affected title and non-titleholders with Resettlement and Rehabilitation (R&R) assistance; and relocation support for the affected community/commonly owned properties. The key components of the RPF include (a) an entitlement matrix; (b) an approach for addressing the special needs of the female-headed and vulnerable families; and (c) guidelines for free, prior, and informed consultation with the communities and their participation; (d) information disclosure; (d) grievance redressal mechanism; and (f) monitoring and evaluation (M&E).

75. **Gender and social inclusion approach.** The RPF provides additional support measures over and above the regular support, particularly to the vulnerable and female-headed families. Specifically, the measures for women include the following: (a) gender-disaggregated data will be collected during detailed surveys and separate women focus group discussions will be conducted to address specific women-related issues under the subproject; (b) any direct adverse impact of the subproject on female-headed households will be taken up on a case-to-case basis and rehabilitation of these households will be treated as priority under the subproject; (c) during disbursement for rehabilitation assistance and compensation, priority will be given to female-headed households; and (d) joint ownership in the name of husband and wife will be offered in case of non-female-headed households. In addition, assistance will be provided to vulnerable families. This includes the following: (a) government welfare schemes, if eligible as per government criteria; (b) one-time lump sum assistance; (c) additional benefits to Scheduled Caste/Scheduled Tribe (SC and ST) as per the provisions of the RFCTLA&RR.

76. **Consultation and disclosure.** The KUIDFC conducted city-level stakeholder consultations in Hubballi-Dharwad between February and November 2014 to discuss the project objectives and key concerns of the stakeholders. The elected council passed and ratified a resolution affirming the project design. More such community/stakeholder consultations will be carried out during implementation of the project. The RPF, Environmental Social Assessment (ESA), and other relevant safeguard documents for Hubballi-Dharwad were disclosed locally on the KUIDFC website on January 7, 2015, and by Hubballi-Dharwad on January 13, 2015, in compliance with the Right to Information Act, 2005 and operational policies of the Bank. These documents have also been disclosed at the Bank's InfoShop on January 8, 2015. The borrower will establish a two-stage grievance redressal mechanism with clear guidelines for grievance uptake, registration, acknowledgement, follow-up, and resolution and feedback. Belagavi and Kalaburagi have also completed city level stakeholder consultations and ratification by the elected councils.

The RPF, ESA and other relevant safeguard documents have been disclosed locally in KUIDFC's website and also by the two cities. These documents were also disclosed in the Bank's InfoShop on January 8, 2015.

77. **Implementation arrangements.** To effectively plan and implement the RPF, the KUIDFC shall establish environment and social management cells as part of the PMU at the state level and PIU at the city level. Safeguard staff will be deployed in the PIU to implement the environment and social safeguard management measures. The Empowered Committee, under the additional chief secretary, will review and oversee the implementation of the RPF. A third-party quality audit agency will be appointed to provide independent monitoring on implementation of the RPF.

78. **Grievance redress mechanism.** Communities and individuals who believe that they are adversely affected by a Bank-supported project may submit complaints to existing project-level grievance redress mechanisms or the Bank's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed to address project-related concerns. The project-affected communities and individuals may submit their complaints to the Bank's independent Inspection Panel, which determines whether harm occurred, or could occur, because of the Bank's noncompliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the Bank's attention and Bank management has been given an opportunity to respond. For information on how to submit complaints to the Bank's corporate GRS, please visit http://www.worldbank.org/GRS. For information on how to submit complaints to the Bank's Inspection Panel, please visit www.inspectionpanel.org.

79. **M&E and Budget.** Annual safeguards audits will be carried out to record achievements, lessons learned, and update the RPF to meet emerging issues and risks. The Project will provide a budget for implementing the specific RAPs. The budget for land and R&R will be provided by the GoK through its counterpart funding arrangements.

F. Environment (including Safeguards)

80. **Environmental Social Assessment and Environmental Code of Practice.** Considering the city-wide water supply network expansion envisaged in the Project and its potential to cause environmental and safety issues to the communities during construction and operation phase, the KUIDFC has carried out ESAs and prepared Environmental Management Plans (EMP) for Hubballi-Dharwad. These will be updated (as needed) by the private operator according to the final designs during the implementation phase. To guide the private operator during the start-up, transition, and sustaining phases of the Project, an Environmental Code of Practice (ECoP) has also been prepared. The EMP and the ECoP are integrated into the operator contract documents and will ensure that all environmental management issues are adequately addressed by the private operator. Similar ESAs, EMPs and ECoPs have been prepared for Belagavi and Kalaburagi.

81. **Environmental impacts.** The Project activities involve augmentation of bulk water supply facilities, upgrade of water treatment facilities, strengthening of transmission lines, replacement/laying of water supply pipelines across the city, construction of storage reservoirs (overhead/underground), and so on. The Project avoids major impacts associated with large-scale construction activities such as land acquisition (except for pumping stations and service reservoirs), impacts on sensitive geological and forest areas, and direct impacts on major physical

and cultural properties. The ESA carried out for Hubballi-Dharwad confirms that the project interventions do not cause significant, irreversible impacts but may result in impacts during construction phase due to (a) laying of water supply lines; (b) traffic diversion and safety issues; (c) impact on local drainage; (d) temporary impacts on access to local resources; and (e) construction and operation phase air/noise pollution impacts on sensitive receptors like schools and hospitals.

82. **Environmental Management Plans.** To mitigate the impacts identified in the ESA, and an EMP is prepared for each city, with specific measures to mitigate (such as barricading the construction area, cross drainage) the impacts and protect the environment, community, and cultural properties. These measures and associated monitoring, reporting, and supervision protocols have also been integrated in the project designs and respective bid documents

83. An ECoP has been developed to ensure proper environmental management during the start-up, transition, and sustaining phase of the operator contract. The ECoP provides detailed guidance to the private operator on the approach to be followed to identify and address the issues of environmental management during each phase of the project. The ECoP also identifies the requirements of conducting environmental assessment studies and development of appropriate management plans, for any new designs/interventions that may come up during the implementation phase.

84. While no historical or cultural sites are located along the main alignment, considering the historical nature of the city, the policy on Physical Cultural Resources (OP/BP 4.11) has been triggered to deal with the situation in case cultural properties are found (chance finds) during project construction.

85. The ESA for Hubballi-Dharwad and Codes of Practice documents have been disclosed locally by the KUIDFC and at the city level on January 7, 2015 and January 13, 2015, and have also been disclosed at the InfoShop on January 8, 2015.

G. Other Safeguards Policies Triggered

86. The Project in Hubballi-Dharwad relies on the performance of two existing dams, each higher than 15 m, to deliver water services in the three cities. The water supply systems draw directly from the reservoirs controlled by these dams or depend on their operation for ensuring supplies. As such, OP 4.37 - Safety of Dams is triggered.

87. A preliminary O&M plan and a framework for an EPP covering the two dams was reviewed at appraisal and included in the Operations Manual. It was agreed that O&M plans and EPPs will be prepared for dams under the Project in a manner satisfactory and acceptable to the Bank within one year of project effectiveness.

88. Furthermore, the GoK has committed to undertake necessary civil and mechanical works required to ensure the structural integrity and hydraulic performance of the dams under the project based on assessments and remedies acceptable to the Bank. Such works are to be completed within two years of project effectiveness.

89. **Safeguard policies triggered.** The physical interventions proposed under the project could result in environmental and social impacts, including temporary impacts on community and cultural resources, land acquisition, and involuntary resettlement of the local population. Considering the above, the project has been categorized as Category B as per the safeguard policy on Environment Assessment (OP/BP 4.01) and has triggered four safeguards policies as indicated in the table.

Policy	Yes	No
Environmental Assessment (OP/BP 4.01)	[X]	[ ]
Natural Habitats (OP/BP 4.04)	[ ]	[X]
Pest Management (OP 4.09)	[ ]	[X]
Physical Cultural Resources (OP/BP 4.11)	[X]	[ ]
Involuntary Resettlement (OP/BP 4.12)	[X]	[ ]
Indigenous Peoples (OP/BP 4.10)	[ ]	[X]
Forests (OP/BP 4.36)	[ ]	[X]
Safety of Dams (OP/BP 4.37)	[X]	[ ]
Projects in Disputed Areas (OP/BP 7.60)	[ ]	[X]
Projects on International Waterways (OP/BP 7.50)	[ ]	[X]

H. Communication

90. The KUIDFC has undertaken targeted consultations with key stakeholders to inform the project design process and has also held ULB-level meetings in Hubballi-Dharwad. In order to better understand the information needs of various stakeholder groups, a Communications & Stakeholder Intermediation (CSI) Study was conducted involving focus-groups of major stakeholders such as local citizens, their elected and community representatives, nongovernmental organizations (NGOs) and civil society organizations (CSOs), representatives of chambers of commerce and the media. A Communication and Stakeholder Intermediation Strategy has been prepared based on the findings of the study. Consultations, especially at the grassroots level of wards/ cities will remain an ongoing activity during project planning and implementation. To that end, the KUIDFC will set up a CSI Unit at the state level, which will oversee the stakeholder outreach activities for the project. It will coordinate the activities of the city-level CSI cells that are to be housed in the PIU. The CSI cells will implement the CSI Plan that will be drawn up for the city and will hire the services of an NGO to conduct the grassroot-level social intermediation activities. The city-level CSI cell will also coordinate outreach activities of the private operator whose obligations in this regard have been detailed in the contract document. Given the scope of stakeholder outreach required under the project, the KUIDFC will hire a senior communications specialist to oversee the effort. This specialist will be assisted by communications coordinators and stakeholder engagement coordinators in the PIU.

Annex 1: Results Framework and Monitoring

India: Karnataka Urban Water Supply Modernization Project (P130544)

PDO: The PDO is to provide city-wide access to a continuous piped water supply in the eligible cities in the state of Karnataka and to strengthen service delivery arrangements at the city level.
These results are at: Project Level

Project Development Objective Indicators

	Type of Indicator	Baseline	Cumulative Target Values**					
			YR 1	YR 2	YR3	YR 4	YR5	YR6
Indicator 1: Direct project beneficiaries (number), of which female (percentage) and BPL (percentage)	Core	100,000	100,000	250,000	750,000	1,100,000	1,100,000	1,100,000 Female: 48%; BPL: 16%
Indicator 2: Operations escrow accounts functioning without a continuing breach of covenants during the reporting year	Custom	0	0	1	1	1	1	1
Indicator 3: PPP for water service delivery awarded and functioning	Custom	0	0	1	1	1	1	1
Indicator 4: Establishment of operational city-owned SPV responsible for water services	Custom	0	0	1	1	1	1	1
Intermediate Results Indicators								
Component 1: Capital Investment Program								
Indicator 5: Number of people in urban areas provided with access to 'improved water sources' under the	Core	0	0	75,000	125,000	200,000	200,000	200,000 Female: 48%; BPL: 16%

	Type of Indicator	Baseline	Cumulative Target Values**					
			YR 1	YR 2	YR3	YR 4	YR5	YR6
project, of which female, BPL								
Indicator 6: New piped house connections resulting from the project intervention, of which BPL (percentage)	Core	0	0	15,000	50,000	60,000	60,000	60,000 BPL: 16%
Indicator 7: Piped household water connections benefitting from rehabilitation works undertaken by the project, of which BPL (percentage)	Core	0	0	20,000	70,000	96,000	96,000	96,000 BPL: 16%
Indicator 8: Length of new distribution pipeline installed (Kilometers)	Custom	0	0	300	1,000	1,500	1,500	1,500 (Max)
Indicator 9: Additional treatment plant capacity installed (MLD)	Custom	0	0	10	25	50	50	50 (Max)
Indicator 10: DMAs with 25% leakage or less	Custom	0	0	13	40	50	50	50
Component 2: Institution Building								
Indicator 11: Water utilities the project is supporting	Core	0	0	1	1	1	1	1
Indicator 12: Institutional development plan for the SPV prepared and approved by the ULB	Custom	0	0	1	1	1	1	1

	Type of Indicator	Baseline	Cumulative Target Values**					
			YR 1	YR 2	YR3	YR 4	YR5	YR6
Indicator 13: Customer information management and billing system functioning	Custom	0	0	1	1	1	1	1
Indicator 14: GIS functioning	Custom	0	0	1	1	1	1	1
Indicator 15: SPV's involvement in management of water supply operations in the city (%)	Custom	0	0	50	70	80	90	90
Indicator 16: Grievances registered related to delivery of project benefits addressed (%)	Core	0	0	60	70	80	90	95
Indicator 17: Revenue collection efficiency in the city	Custom	Low	Low	From the SIP	80	85	90	95
Component 3 : Technical Assistance for Sector Development								
Indicator 18: Customer feedback survey completed and available online for improved social accountability	Custom	0	0	1	1	1	1	1

Note: BPL = Below Poverty Line; DMA = District Metering Area.

Indicator Description

Project Development Objective Indicators

Indicator Name	Description (Indicator definition etc.)	Frequency	Data Source/ Methodology	Responsibility for Data Collection
Indicator 1: Direct project beneficiaries (number), of which female (percentage) and BPL (percentage)	Refers to people receiving continuous pressurized water supply.	Annual	Technical Auditor Certification	PMU
Indicator 2: Operations escrow accounts functioning without a continuing breach of covenants during the reporting year	Operations escrow account functioning with any breach rectified within 15 days	Annual	Financial Accounts	PIUs and PMU
Indicator 3: PPPs for water service delivery awarded and functioning	Operator meeting minimum performance requirements for at least 70% of contract indicators at year end	Annual	Technical Auditor Certification	PMU
Indicator 4: Establishment of operational city-owned SPV responsible for water services	Operational as evidenced by timely submission of annual audited accounts	Annual	Independent Audit	PMU
Intermediate Results Indicators				
Component 1: Capital Investment Program				
Indicator 5: Number of people in urban areas provided with access to 'improved water sources' under the project, of which female (percentage) and BPL (percentage)	See table at the end of annex for computation.	Annual	Customer database	PIU/ Private Operator
Indicator 6: New piped house connections resulting from the project intervention, of which BPL (percentage)	See table at the end of annex for computation.	Annual	Customer database	PIU/ Private Operator
Indicator 7: Piped household water connections benefitting from rehabilitation works undertaken by the project, of which BPL (percentage)	See table at the end of annex for computation.	Annual	Customer database	PIU/ Private Operator
Indicator 8: Length of new distribution pipeline installed (Kilometers)	To be confirmed based on the agreed SIP	Annual	SIP	PIU/ Private Operator

Indicator 9: Additional treatment plant capacity installed (MLD)	To be confirmed based on the agreed SIP	Annual	SIP	PIU/ Private Operator
Indicator 10: DMAs with 25% leakage or less	Based on the contracted improvement	Annual	Project MIS and approved SIPs	PIU/ Private Operator
Component 2: Institution Building				
Indicator 11: Water utilities the project is supporting	Water utility is an operational SPV	Annual	Project MIS	PMU
Indicator 12: Institutional development plan for the SPV prepared and approved by the ULB	The SPV institutional development plan is discussed and approved by the ULB	Annual	SIP	SPV/PMU
Indicator 13: Customer information management and billing system functioning	Customer bills being issued by the system	Annual	Project MIS	PMU
Indicator 14: GIS functioning	System used for decision making	Annual	Project MIS	PMU
Indicator 15: SPV's involvement in management of water supply operations in the city (Percentage)	Based on task delegation set out in plan for delegation of powers approved by the council	Annual	Project MIS	Corporation /PMU
Indicator 16: Grievances registered related to delivery of project benefits addressed (Percentage)	From monitoring reports submitted by private operator	Annual	SIP	Corporation/Private operator
Indicator 17: Revenue collection efficiency in each city (Percentage)	From monitoring reports submitted by private operator	Annual	Project MIS and approved SIPs	PIU/ Private operator
Intermediate Result (Component 3): Technical Assistance for Sector Development				
Indicator 18: Customer feedback survey completed and available online for improved social accountability	System functioning and results online	Annual	Sample survey	Corporation

Computation of Access Figures

The following table shows how the access figures will be computed based on the comprehensive customer database implemented under the project.

Customer Situation	Additional Information	Additional Information	Total number of beneficiaries gaining 24/7 supply (Core)	People gaining access to improved water source (Core)	New house connections (Core)	House connections benefitting from rehabilitation under project (Core)
Indicator #			**1**	**5**	**6**	**7**
Existing house connection (without 24/7 supply)	Legal		X			X
	Illegal		X			X
No existing house connection	House built before project start	Access to standpost (that is, improved)	X		X	
		No access to standpost (that is, unimproved)	X	X	X	
	House built after project start		X	X	X	

Annex 2: Detailed Project Description

India: Karnataka Urban Water Supply Modernization Project (P130544)

Background:

Current Situation

1. The cities of Hubballi-Dharwad and Belagavi belong to the northwestern part of Karnataka State while Kalaburagi is in the northeastern part—a more backward region and formerly part of the old Hyderabad State.

Table 2.1. Key city statistics

City	Population Census 2011	Key Data from Municipal Website		
		City Area	Length of Roads	Number of Properties
Hubballi-Dharwad	943,857	202.3 km^2	2,100 km	234,658
Belagavi	488,292	94.0 km^2	615 Km	80,963
Kalaburagi	532,031	64.0 km^2	821 km	50,459

2. All the three cities experience poor water services, with supply to customers for just a few hours every two to five days. The exception is some 10 percent of the population (of demonstration zones), which is served under the earlier KUWASIP and receives reliable 24/7 water supply. This poor service is not simply an issue of water availability but arises mainly due to large physical losses in the distribution system and poor management systems.

3. The water supply systems are owned by their respective ULBs and O&M, including billing and collection, is undertaken by the Karnataka Urban Water Supply and Drainage Board (KUWSDB—referred to as the Board), governed by a memorandum of understanding between the ULBs and the Board.

The Karnataka Urban Water Supply Improvement Project

4. The KUWASIP (P082510, closed on March 31, 2011, Outcome rating: Satisfactory), a pilot 24/7 water supply project, was implemented in five demonstration zones across the three cities, serving some 10 percent of the population. The project, for the first time in India, was successful in demonstrating the possibility of delivering of 24/7 water for all with low levels of NRW and per capita consumption of between 74 and 114 liters per capita per day (lpcd) (135 lpcd is the national norm). The cost recovery rate is high as most of the consumers pay their bills promptly. A volumetric tariff is used and 100 percent of households are provided water connections.

5. The key results from the demonstration zones, as captured in the project's Implementation and Completion Report are as given in table 2.2.

Table 2.2 Key results from the demonstration zones

Indicator	Output under previous intermittent supply	Output under 24/7 supply	Outcome
Water supply service level	2 hours in three days	24/7 - continuous	Water supplied through network at all times
Quantity of water supplied in demonstration zones	22.14 MLD	18.40 MLD	Broke the myth that continuous water supply needs more bulk water supply—reduction in leakages and water conservation led to reduced need under the 24/7 regime.
Average pressure in the network	Less than 0.5 m head	17.7 m head	Water is now delivered directly to the overhead tank in the second floor of a house. No need to lift water, thus saving energy charges at the household level.
Number of public fountains in demonstration zones	433 numbers	0 (none)	All households now have water connections. No more drudgery in collection of water or loss of employment due to long waiting hours at standposts.
Loss of water (NRW)	About 50%	About 7%	Efficient delivery of water— more revenue water meant increased water available to the consumer.
Customer services	Nonexistent	24/7 customer care center	Assured and dependable water services

Source: KUWASIP ICRR.
MLD = million liters per day.

6. The KUWASIP demonstrated that it was technically possible to deliver continuous water supply in Indian cities; people were willing to pay for water on a volumetric basis; and the private sector, which has been managing operations, was considered a valuable partner in providing necessary technical expertise to allow the delivery of good services. At the same time, the project was driven by the state government whose strong commitment, with the ULB's active participation, made the demonstration project successful. The ULBs did not contribute financially to the project (all the investment and operator fees were paid as a grant from the state) nor did they take responsibility for oversight of the private operator, which they delegated to the KUIDFC. In addition, the technical solution to deliver 24/7 water supply required almost total replacement of the existing distribution system and house connections. While this was acceptable for a demonstration project, much greater capital efficiency is needed for a replicable approach.

Karnataka Urban Water Supply Modernization Project

(a) Overview

7. The KUWSMP will scale up 24/7 supply to the city level and, in doing so, draw on lessons learned from the KUWASIP and from international good practices to develop a model that will build long-term, cost-effective, and sustainable service delivery arrangements. Apart from the project investments the five core elements of the project design are the following:

8. **Improved institutional sustainability.** Under the project, the ULB will establish a water utility (termed SPV), which, in the long term, will be responsible for managing water services in each city. The SPV will be owned by the ULB and will be responsible for managing all financial flows related to water supply in the city. By the end of the project period (year 5 of the PPP

contract), the SPV will be capacitated to supervise the private operator to deliver services through the remaining period of the PPP contract.

9. **Partnering with the private sector.** Service delivery in Hubballi-Dharwad will be delegated to a private operator selected through a competitive process. The private operator will be responsible for converting Hubballi-Dharwad to continuous supply over a four-year period and then maintaining that level of service for a further eight years. The performance-based PPP contract for service delivery is described in Paragraph 23 onwards, below.

10. **Increasing financial sustainability.** On completion of the transition to continuous water supply, the project design determined that increased revenues from user fees plus other predictable and dedicated ULB financing sources will cover the operator's fees, SPV management costs, and minor expansions to the system to keep pace with increasing demand. This is in line with good international practices. In addition, the ULBs will finance 26 percent of the project capital expenditure with debt service provided by 35 percent of each city's untied SFC grants. Two separate escrow accounts will be established to manage the operating costs/revenues (the 'operations' escrow account) and the servicing of the ULBs' capital contributions (the 'debt service' escrow account). The ULB will be responsible for making good any shortfalls in these escrow accounts, drawing on a range of financial resources available to them.

11. **Increasing ULB Responsibility.** The ULB's role in ensuring institutional and financial sustainability is critical. The ULB will retain ownership of the assets and will be responsible for tariff settings and making available its share of the capital expenditure requirement. In addition, the ULB will take on new roles under the project and in particular

- establishing and supervising a ULB-owned SPV;
- pledging 35 percent of untied SFC grants toward debt service over a 30-year period; and
- providing financial backstopping to the operations and debt service escrow accounts.

12. **Ensuring cost-effective solutions.** The delivery of continuous water supply requires optimization of supply, leakage, and demand in each city. This involves a mix of operational and capital solutions and the introduction of single-point responsibility for service delivery from 'source to tap'. Due to lack of data about the current asset condition and performance (especially in the distribution network), it is impossible to specify a priori how to proceed. However, the contract is designed as an output-based contract with performance incentives to encourage private operator to collect data, pilot new ways of rehabilitating networks, and develop cost-effective solutions. Success in delivering 24/7 supply at reduced costs (compared to a baseline established by a third-party advisor to the KUIDFC) will be rewarded by a 'gain share' arrangement between private operator and the ULBs. The gain share arrangement will be applied to the capital costs and the energy costs.

(b) Sanitation

13. The focus of the KUWSMP is to improve water supplies to provide 24/7 supply in Hubballi-Dharwad. The city is also participating in the North Karnataka Urban Sector Improvement Project funded by the ADB (US$440 million), with investments in sewer networks

and a wastewater treatment plant. According to the ADB project data, it is anticipated that there will be an increase in the number of households connected to the sewer system. There will still be households that are not connected to the sewers and will rely on septic tanks for wastewater treatment. The KUIDFC will obtain a commitment through a resolution from the ULB, to the effect that issues of sewerage and sanitation in the project city will be analyzed and necessary improvement measures will be implemented in parallel to the SIP.

(c) Poverty Focus

Current Service Delivery in Low-income Areas

14. The share of population residing in slums in Hubballi-Dharwad is 16 percent, consisting of a total of 34,000 households in Hubballi-Dharwad. Most of the households in slum areas earn less than INR 3,000 per month. Households from weaker sections belonging to SC/ ST categories, though largely located in slum areas, are also in non-slum areas and constitute 9–12 percent of the total population.

15. Currently, access to piped water supply services is fairly high, with over 80 percent of the slum population having access either through individual taps or public standposts. Individual taps are more prevalent in Hubballi-Dharwad (approximately 60 percent). In most slums, even where access to network supply is available, a secondary source of supply is provided,typically through public standposts connected to borewells some of which may be non-potable in Hubballi-Dharwad.

16. The highly intermittent and erratic supply of water in non-demonstration areas affects the low-income households to a greater extent due to the lack of coping infrastructure (for example, underground and overhead storage tanks, booster pumps, water purification systems, which the more well-off households are able to afford) or the larger share of income spent in acquiring this infrastructure. The quality of connections provided in several low-income areas is also highly substandard, making the households vulnerable to water contamination and associated health risks.

Pro-poor Strategy under the KUWSMP

17. The KUWASIP's success largely lies in its ability to effectively communicate with the poor and redressing their genuine concerns. A liberal connection policy was followed, which waived full connection charges for all families living in houses less than 600 square feet built-up area and included provisioning for payment of water meters on easy installments. Moreover, the tariffs incorporated a subsidized price for the initial consumption block in support of the poor.

18. The KUIDFC has indicated that the same pro-poor policy will also be followed, which will be as shown in table 2.3. This will ensure very high levels of coverage of poor households with house connections, which will relieve the women from the drudgery of collecting water from public taps and waiting for water for hours. This will also help regularize unauthorized connections.

Table 2.3 Pro-poor policy under KUWSMP

Period	Components	New Connections**		Existing Connections		Illegal Connections
		Poor	Non poor	Poor	Non poor	
Transition Period	**Connection cost**	Exempted	In EMIs	Exempted	50% of actuals in EMIs	Actuals in EMIs
	Meter cost	In monthly installments*		In EMIs		
	Connection fee	Exempted	Actuals	Exempted	Exempted	Actuals
Sustaining Period	**Connection cost**	Exempted	Actuals - one-time payment	n.a.	n.a.	Actuals - one-time payment
	Meter cost	One-time payment				
	Connection fee	Exempted	Actuals	n.a.	n.a.	Actuals + penalty/ regularization fee

Source: KUIDFC Circular No KUIDFC/KUWASIP/CIR-DZ/01/2006-07 dated 9.11.2006
Note: EMIs to start after commencement of O&M.
* Was INR 30 per month for 30 months.
** Incentives to be considered to encourage connections when the operator is laying or replacing pipes in an area.
NA = Not applicable.

19. To address the institutional barriers being faced in obtaining connections and facilitating coordination between various agencies, the private operator will be required to establish a Community Liaison Cell[12] (CLC) to focus on issues related to water services to low-income households. The CLC will also facilitate interactions with households in low-income communities to address their genuine concerns relating to service delivery arrangements, payment terms, grievance redressal, and gender issues and ensure monitoring of service delivery in low-income areas, thus ensuring that the poor benefit from the project.

20. The private operator will be required to have the necessary systems for tracking of performance differentiated by economic status[13] for project Key Performance Indicators relating to new connections, access to 24/ 7 water supply, disruptions in supply, revenue collections, and customer complaints.

(d) Social Accountability

21. Under this project, a systematic approach is proposed to strengthen social accountability and citizen voice, through periodic independent assessments of service levels from the citizens' perspective. ICT-based tools will be used for improved efficiency, accuracy, and transparency. These will build on the SLB Connect system (refer to annex 7) developed by the Water and

[12] The capacity of the CLC will vary across the three cities corresponding to the number of low-income households in each city.
[13] In consultation with the KUIDFC, criteria to be developed for defining the urban poor, such as informal or slum settlements; weaker sections (SC, ST, OBC); property size (less than 600 square feet).

Sanitation Program under the Indian government's SLB program. Through meetings with the KUIDFC officials, the following activities are proposed under this component:

- Enumerator-based detailed household-level feedback surveys conducted using mobile to web system, on an annual basis

- Telephone- and SMS-based surveys conducted on an ongoing basis for specific service aspects

- Self-reported feedback by citizens (Citizen-to-Government communication) through online, SMS channels, and Government-to-Citizen communication through SMS for awareness creation, operational updates and so on.

22. Findings from the feedback surveys will be made publicly accessible online through city-level dashboards. Key findings will be further disseminated offline to local representatives and partners for increased citizen awareness and engagement. These activities will be coordinated through the communication and stakeholder intermediation cells constituted within the ULB.

Overview of the Operator Contract Design

23. The operator contract has been designed as a bespoke PPP contract, drawing on the precedents of the KUWASIP, other projects in the water sector in India, the concession agreement developed for the Karnataka State Highway Improvement Project II (KSHIP II) Bank-funded road annuity project in Karnataka, the model concession agreements of the government of India (GoI) and international practice. The PPP contract has been designed in three periods:

(a) **Start-up period (year 1).** The private operator will undertake detailed assessments of the system, its condition, and performance and develop an initial water supply investment program to deliver 24/7 supply by the end of the transition period. In parallel, the private operator will assess the needs and costs to build a well-run utility over the same period. These will be compiled into an SIP, which will be submitted to the client and, once approved, will provide the basis for capital works and utility systems during the transition period. The private operator will also gear up to take control of the system at the end of the startup period. During the startup period, the system will continue to be operated on behalf of the ULB by the Karnataka Urban Water Supply and Drainage Board (KUWSDB).

(b) **Transition period (year 2–4).** The private operator will take over full operational responsibility for the system, implement the agreed SIP, update the SIP and planned activities on an annual basis using better quality data and modeling resulting from their activities, improve service quality until 24/7 supply is provided across each city, and achieve performance indicators that will support 24/7 supply even at the end of the contract. All maintenance expenditures (major and minor) will be funded through the SIP.

(c) **Sustaining period (year 5–12).** The private operator will undertake routine O&M of the system, keeping leakage levels at the prescribed levels and expand and replace the

system, as needed, using funds provided by the city/SPV. In year 12, the private operator will undertake activities for a smooth hand over to the SPV such that it will be able to manage the system, post the PPP contract, on its own or using other private operator.

24. The operator contract has provision for two incentive schemes:

(a) Service performance incentives where the operator's fee will be reduced or enhanced depending on achievement of defined performance indicators against specified time frames, including (i) number of people with 24/7 supply; (ii) level of NRW; (iii) responsiveness to customer complaints; and (iv) revenue collection efficiency.

(b) Gain share arrangements where the private operator will share a proportion of the savings resultant from the operator's (i) efficient use of capital compared to that envisaged at the start of the project or the Capital Expenditure (CAPEX) envelope and (ii) efficient use of energy compared to previous years' achievements. This gain share arrangement is used to provide private operator incentives for greater efficiency on cost items that are otherwise a pass-through to the operator. Payment of the capital efficiency gain share takes place during the sustaining period and is dependent on continued delivery of the required levels of service.

25. To support oversight of the private operator, the following consulting assignments are specifically referenced in the contract:

(a) **Expert reviewer.** An entity to independently assess the SIP and its annual updates to ensure that the operator is maximizing data collection and modeling information and using good international practices in defining the capital and utility building investment plans.

(b) **Technical auditor.** An entity to provide independent assessment of the performance of the private operator as against the targets set in the operator contract, initial assessments of disputes through a mediation process, and quality assurance on designs and construction undertaken as part of the contact.

Component 1 - Capital Investment Program

Hubballi-Dharwad

26. The city has two water sources. Neersagar Dam supplies 41.47 MLD of water, which is relatively dependable (occasional shortages). The other major source is Renukasagar Dam on the Malaprabha River, which is treated at Amminabhavi and supplies 63.74 MLD from an old water treatment plant (WTP) and 58.73 MLD from a more recently constructed WTP. Total water supply is currently 164 MLD. It is understood that the raw water main from Renukasagar has an additional carrying capacity of 32 MLD. The raw water mains and WTPs are designed to operate for 22 hours a day. A new 32 MLD treatment plant is proposed under the project to be constructed at Amminabavi.

27. The key elements of the project investment program planned for the city are summarized in table 2.4.

Table 2.4. Key Elements of the Project Investment Program for Hubballi-Dharwad

Sl. No.	Item	Particulars
1.0	**WTPs**	
1.1	New @ INR 2.6 million/MLD	1 in Amminbhavi /32 MLD
1.2	Rehabilitation	Kanvihonnapur WTP
		Amminbhavi
2.0	**Reservoirs – Elevated Service Reservoirs (ELSRs)**	
2.1	New @ INR 11/liter	12 / 14 ML
2.2	Rehabilitation	8 in Hubli
		6 in Dharwad
2.3	Demolition	26
3.0	**Reservoirs – Ground Level Service Reservoirs (GLSRs)**	
3.1	New @ INR 6.50/liter	1 / 41.27 at the WTP
3.2	Rehabilitation	7
3.3	New GLSRs @ INR 6.50/liter	1 / 35.5 ML
4.0	**Pumping Station - Raw Water**	
4.1	New	Saundatti
4.2	Rehabilitation	Saundatti
		Dhummwad
5.0	**Pumping Station - Clear Water**	
5.1	New	Amminbhavi
		Gokul Overhead Tank
5.2	Rehabilitation	Amminbhavi
6.0	**Transmission Mains - Raw Water**	
6.1	Rehabilitation	
6.2	New	
7.0	**Transmission Mains - Clear Water**	
7.1	Rehabilitation	
7.2	New	108 km
8.0	**Distribution Network**	1,500 km
9.0	**House Service Connections @ INR 5,000 each**	145,700
10.0	Supervisory Control and Data Acquisition **(SCADA)**	
10.1	Civil Room	1
10.2	Network	
10.3	DMA meter	144

Note: In Hubballi-Dharwad, the Karnataka Water Supply and Drainage Board (KUWSDB) is implementing a project that will convert approximately 50,000 connections to 24/7 supply. Once the conversion is complete, the responsibility for providing continuous water supply to these connections with come within the purview of the operator contract issued under KUWSMP.

Similar investment plans have been prepared for Belagavi and Kalaburagi.

Total Investment Costs

Component 1 - Capital Investment Program

28. All **cost estimates** were prepared in 2015 with figures adjusted for inflation and depreciation in Indian rupees since February 2015. The specifications for road restoration will include only trench covering and road restoration with black top (limiting to wearing coat of 20 mm thickness only). The ULB will be responsible for restoration over and above the trench covering and minimum road restoration that will be undertaken by the private operator. Any expenditure to be incurred by the ULB on full road restoration will be additional and not financed from the project. Further, cost of connection has been restricted to INR 5,000 based on scheduled rates. Finished costs of all other items are derived from market rates and scheduled costs.

Table 2.5. Investment Costs

Key Costs	Hubballi-Dharwad (US$, millions)
Bulk water system	5.94
Transmission	24.96
Reservoirs	11.15
Distribution	31.78
House connections	12.14
SCADA	3.86
Others (weir)	0.00
Total	89.83
Total (after price contingencies)	118.26

Component 2 - Institution Building

29. A number of activities will be financed under this component:

(a) **50 percent of the operator fees during the transition period.** To minimize financial burden on the ULBs, the project will finance 50 percent of the operator fee during the transition period covering the costs for routine operation of the system, the costs of additional staff training, capacity building, and additional operating costs (especially for leakage control) to stabilize service delivery.

(b) **SPV setup and operations.** The ULB will need to operationalize the SPV and this will be financed by the project, including (i) preparation of institutional staffing, training,

and delegation plan; (ii) office equipment; (iii) staff training costs; and (iv) incremental operating costs during the project period.

(c) **Systems and equipment for the utility.** The project will also finance all the systems and equipment needed to establish a well-run utility at the city level. This will include computer systems (MIS, GIS, Billing and Collection, Call Center, CMMS); standard operating procedures operational equipment (leak noise correlators, workshop equipment); and vehicles (trucks, cars and motorbikes).

Component 3 - Technical Assistance for Sector Development

30. The Project will support activities aimed at strengthening impact evaluation and social accountability for urban water sector in the state.

(a) **Project impact evaluation.** This will assess the impact of the project at both the household level and the city level. While much attention has been focused on benefits of continuous water supply at the household level, there has not been any assessment of the impact at the city level (for example, higher economic activity, better school attendance, higher property tax revenues). This impact evaluation will capture city-level benefits of continuous water supply.

(b) **Improving social accountability.** This will support implementation and routine capture of consumer feedback on the quality of WSS services in each city and make it available online for easy access by all stakeholders.

(c) **Improved dam management.** Update or prepare O&M plans and EPP for the two dams providing water to the Hubballi-Dharwad and considered large dams under the Bank's policy on Safety of Dams (OP 4.37).

Component 4 - Project Management

31. This component finances activities to ensure efficient and effective project implementation. This includes incremental operating costs, equipment to establish PMU/PIU offices, consultants to support technical evaluations, third-party monitoring, safeguards and fiduciary auditing, construction supervision, communications, and others.

Summary of Project Costs

Table 2.6. Project Cost and Financing (US$, millions)

	Hubballi-Dharwad			KUIDFC		Total	Financing Share		
	WB	GoK	ULB	WB	GoK		WB	GoK	ULB
Component 1	94.25	-	39.50	-	-	**133.75**	94.25	-	39.50
Component 2	3.00	3.50	-	0.50	2.00	**9.00**	3.50	5.50	-
Component 3	-	-	-	0.50	1.50	**2.00**	0.50	1.50	-
Component 4	-	-	-	1.50	6.50	**8.00**	1.50	6.50	-
Total Project Costs	**97.25**	**3.50**	**39.50**	**2.50**	**10.00**	**152.75**		-	-
Front End Fee	**0. 25**					**0.25**	0.25	-	-
	97.50	**3.50**	**39.50**	**2.50**	**10.00**	**153.00**	**100.00**	**13.50**	**39.50**

Annex 3: Implementation Arrangements

India: Karnataka Urban Water Supply Modernization Project (P130544)

Project Institutional and Implementation Arrangements

State-level Institutions

1. **Urban Development Department.** The state's Urban Development Department is the line ministry within the GoK, which takes policy decisions on project implementation and acts on reform issues such as setting up of the Water Council, securing GoK financing, reviewing and clearing the ULB's decision on policy issues such as setting up of Water Utility (SPV), and so on.

2. **Finance Department**. The state's Finance Department is the state nodal agency for monitoring externally aided projects. It will be monitoring the project and release disbursements to the KUIDFC. It will also make adequate allocations in the state budget and ensure that the project continues to receive timely transfers.

3. **Empowered Committee for the project.** The project will be guided by an Empowered Committee constituted under Government Order No. UDD 380 PRJ 2013, dated December 21, 2013 with the following members:

(a) The Additional Chief Secretary to the government is the Chairman. The members are the following:

- The Principal Secretary to Government, Urban Development Department.
- The Principal Secretary to Government, Planning Department.
- The Secretary to Government, Urban Development Department
- The Secretary to Government (Expenditure), Finance Department
- The Secretary to Government (Fiscal Reforms), Finance Department.
- The Managing Director, KUWS&DB.

(b) The Managing Director, KUIDFC is the Member Secretary and the KUIDFC is the secretariat for this committee. The Empowered Committee, which meets every quarter, will be responsible for

- taking (policy) decisions referred by the KUIDFC for smooth implementation of the project;
- approving the investment proposal to be taken up under the project, within available funds;
- sanctioning and awarding contracts regardless of their costs;

- engaging consultants as required;
- approving requirements of staff to implement the projects;
- reviewing progress of project implementation and resolving any problems encountered during implementation; and
- procuring vehicles, equipment, furniture, and other supplies and consultancy services as required

4. **KUIDFC**. The KUIDFC will manage project implementation on behalf of Hubballi-Dharwad. It is responsible for major project procurements such as operator contract, implementation oversight of project activities, FM and reporting, auditing, M&E, and so on. The KUIDFC will establish a PMU, headed by a project manager, which will have offices at both Bangalore and Hubballi-Dharwad to manage the project; and PIUs with a deputy project manager to manage the project implementation at the city level. The PIU will work under the PMU which, in turn, will function under the overall direction of the MD, KUIDFC.

City-level Institutions

5. **ULB - Municipal Corporations**. The ULBs have responsibility for water supply to their residents under the Karnataka Municipal Corporations Act, 1976. The ULB will create a ULB-owned SPV or a water utility responsible for ensuring service delivery to customers. The ULB is responsible for mobilizing their share of the capital costs of the project and for providing financial backstopping to the two escrow accounts established under the project for debt service and operations.

6. **PIU**. The PIU will be responsible for implementation of project activities at the city-level. The activities include managing various contracts, overseeing the private operator's activities, implementing investments, monitoring payments, monitoring project activities, reporting to the PMU, and so on. It is expected that the PIU will coordinate closely with the SPV during the transition period so that the SPV can gain required capacity before the project is closed and the PIU is wound up.

7. **SPV or city water utility**. To improve transparency and governance in water service delivery, a city-level water utility (called the SPV), owned by the ULB, will be established in each city to manage water services. The assets will continue to be owned by the ULB, which will also set the tariffs. During the project period, the ULB will delegate responsibilities to the SPV according to a plan prepared during the start-up period and approved by the ULB. Capacity of the SPV will be built so that it can take over full responsibility for the supervision of private operator and system planning by the end of the transition period.

Financial Management, Disbursements, and Procurement

Financial Management

8. The KUIDFC has functioning FM systems that meet the requirements of the project and Bank reporting. The KUIDFC has successfully handled the Bank projects KUWASIP I and

Karnataka Municipal Reform Project (KMRP). The KUIDFC has been working on Bank projects over the last decade and has followed all FM covenants producing timely IUFRs and audit reports. The KUWASIP I was carried out well in case of FM and had a rating of Moderately Satisfactory/Satisfactory. In the case of the KMRP, the FM arrangements are working well and it consistently has a rating of Moderately Satisfactory. In addition, the FM staffing has been strengthened over the last few years and the staff have become conversant with the accounting and reporting requirements of the Bank. The project's FM risk is kept as 'Substantial' due to the PPP components. The detailed FM assessment is outlined here.

9. **Implementation agency**. From the FM's viewpoint, the KUIDFC will be the implementing agency where accounting and payments will be centralized. The KUIDFC will support all other agencies like private operator and SPV to be created under the project for accounting and payment processes.

10. **Items funded by the Bank project**. The following items will be funded by the project

Table 3.1. Items funded by the Bank project

Activity/Funding	IBRD	GoK	ULB
Component 1: Capital Investment Program			
Construction Cost	Yes		Yes
Gain Share			Yes
Land acquisition and the IDC		Yes	Yes
Operator Fees	Yes		Yes
Component 2: Institutional Building and Utility setup	Yes	Yes	
Component 3: Technical Assistance for Sector Development	Yes	Yes	
Component 4: Project Management	Yes	Yes	

IDC = Interest during construction

(a) **Capital Investment Program - Construction Cost.** The capital works cost incurred by the project will be funded by the Bank. The project will hire private operator in Hubballi-Dharwad to handle both capital works as well as operations. It will be a combined contract for development and operations and all payments will be made as per the contract.

- The KUIDFC will open a bank account for Hubballi-Dharwad to handle the civil works contract cost. The bank account will be opened in Hubballi-Dharwad so that contributions can be received and accounted through the accounts.

- The private operator will maintain a specific bank account for all project-related receipts and payments.

- An advance will be given by the KUIDFC to the private operator against the Bank guarantee for making payments under the project. The operator will use this advance to pay the bills of the construction contractor and will furnish the copies of the bank account along with the bills to the KUIDFC for replenishment. As of now, US$1 million is considered to be provided as advance for this purpose and this amount will be mutually decided by the KUIDFC and private operator.

- The private operator will hire (using World Bank procurement methods) construction contractors or equipment suppliers to carry out the works.

- Measurement of the works will be recorded in the M-book as specified by the GoK, and the bill will be prepared by the contractor.

- The bill will be verified and certified by the private operator. The invoice certified by the private operator will be sent to the technical auditor and an appropriate authority at the ULB level.

- Once the bills are certified by the ULB and recommended for payment, the private operator will pay the invoice amount from an advance held in the third-party contract special account.

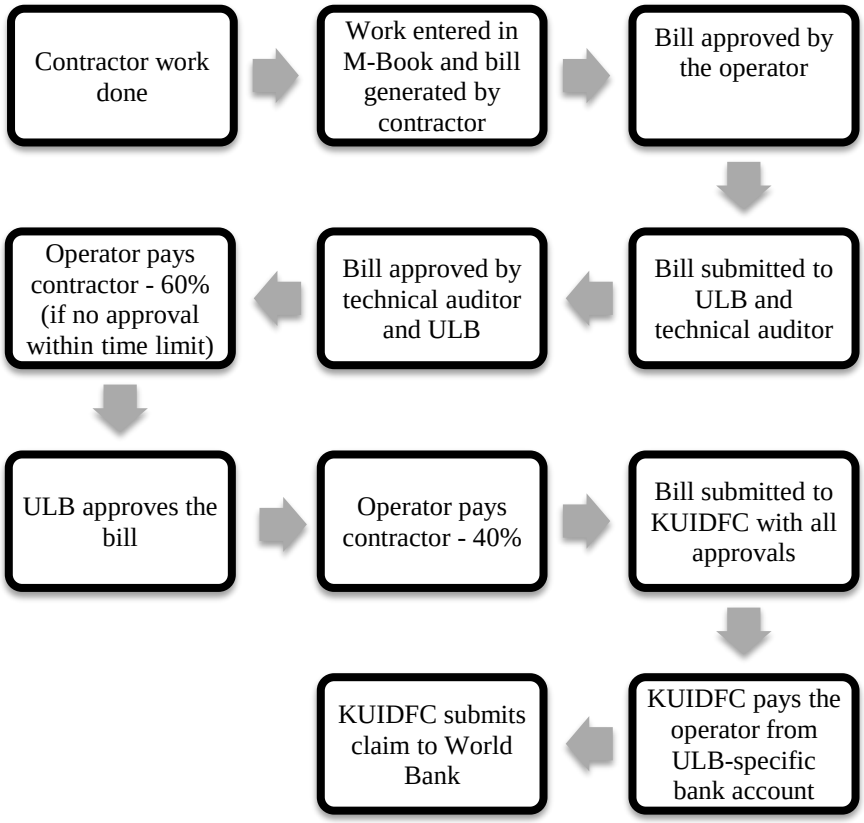
- If approval from the ULB is not received within the defined time, the private operator will pay 60 percent of the invoice amount from the third-party contract special action. After the appropriate authority certifies the bills, the balance will be paid by the private operator.

- After approval of all parties, the bills will be passed on to the KUIDFC, who will replenish funds to the operator for payments to the contractor.

- On receipt of the bill, the KUIDFC will pay the entire amount to the private operator. The amount will be transferred to the third-party contract special account.

- The Bank will reimburse the amount to the project based on the actual work done and the running bills approved.

Figure 3.1. Fund flow process



(b) **Capital works - gain share.** Capital works gain share payments, if any, earned by the private operator will be borne by the GoK or the ULB and will not be disbursed by the Bank. An account will be set up for the capital efficiency payments and managed by the KUIDFC during the project period. Even though capital efficiency payments will be met by the ULBs, the KUIDFC will create and maintain the escrow account for this purpose and ensure that the corpus is created by the ULBs for the capital efficiency payments. After four years, it will be transferred to the cities that will be paying these amounts to the private operator based on service-level standards and other parameters.

(c) **Capital works - Land acquisition, R&R, utility shifting**, and the indefinite delivery contract will be funded by the GoK and the ULBs.

(d) **Operator O&M fees.** The private operator will improve and manage the water supply systems as per contract and payments will be paid as per contract milestones. The Bank will reimburse 50 percent of the operator fee during the start-up period and the balance will be funded by the ULB. To support the initial years working of the systems, the project will be funding 50 percent of the operator fees during the transition period as per the following procedure:

- Electricity costs and other costs will be met by the ULB from the SFC electricity grants and revenue user charges.

- The private operator's bill will be certified by the technical auditor and an appropriate authority nominated by the GoK.

- Payments will be made by the KUIDFC from the project account to the escrow account from which the private operator will be paid.

- The user charges for the period will be remitted to this escrow account by the SPV.

- Three months reserve of the amount payable to the private operator has to be maintained in the operations escrow account. The KUIDFC needs to finalize the arrangement for providing funds for this reserve amount.

- The O&M needs to be handled by the SPV or the ULB in the long run. However, during the transition period, the KUIDFC will set up the escrow account and maintain it. After the transition period, these escrow accounts will be transferred to the SPV or the ULB as required.

(e) **SPV setup cost.** The SPV setup costs will be carried out by the private operator and will be reimbursed by the KUIDFC as per the contractual terms. This will be based on the actual costs paid by the private operator and will be as per the contract and work plan agreed with the KUIDFC.

(f) **Institutional strengthening, sector strengthening and other PMU costs.** Most of these costs will be in the nature of consultancies and the incremental operating costs, which will be contracted and paid by the KUIDFC. All these costs will be paid as per the bills or contractual deliverables. The Bank will reimburse these amounts based on actual costs paid by the KUIDFC.

11. **Budgeting and fund flow.** A budget head '4215-02-190-0-03' has been created for the project and a budget provision has been made. The amount will be passed on from the state government budget to the KUIDFC, which will handle the project funds. Project-specific bank accounts will be created by the KUIDFC in line with other project accounts it handles.

12. **Bank account arrangement.** The KUIDFC will open bank accounts—one for managing the PMU related payments and one in Hubballi-Dharwad to handle the civil works contract cost. There will be additional escrow accounts created as per clauses mentioned in the PPP contract.

13. **Intercept of the SFC and other ULB share of payments.** The ULBs need to provide different types of funds for this project from the SFC and other government grants. The GoK needs to issue appropriate government orders so that payments will be directly paid to the KUIDFC.

14. **Accounting**. The KUIDFC follows the double entry accrual basis of accounting as per the Indian Companies Act. The KUIDFC has implemented Tally, a computerized accounting system, and hence, will be maintaining project accounts in Tally. All required records and books of the accounts will be maintained in Tally. The project accounting will be implemented in the same manner that it is carried out for other projects.

15. **Staffing.** The project FM will be headed by the General Manager-Project Finance and his team who are well versed with the Bank's accounting and reporting requirements. Additional staff for the project will be hired on contract basis to maintain accounts in Tally.

16. **Reporting.** IUFR-based disbursement will be used for the project which is to be submitted to the Bank on a quarterly basis within 60 days after the end of the quarter. The IUFRs will disclose receipt and utilization of project funds (both the Bank's share and counterpart contribution). The IUFR will be based on project accounts and will reflect the actual expenditure for the project components based on the figures reconciled with the Bank. All expenditures reported in the IUFRs will be subject to annual project audit. The IUFR formats have been developed and agreed with the client and will be finalized by negotiations.

17. **Auditing.** The annual audit of the PFS will be carried out by a chartered accounting firm (empaneled with the Comptroller and Auditor General (CAG) panel of firms for audits) appointed by the project as per the ToR agreed with the Bank. The entity auditor will be entrusted the project audit also. All supporting records and documents under the project will be subject to this audit. The PFS will summarize all receipts and expenditures reported in the IUFRs. The annual audit report will consist of (a) annual audited project financial statements, (b) audit opinion, and (c) management letter highlighting weaknesses, if any, and identifying areas for improvement. The annual project audit report and accounts will be submitted to the Bank by December 31 of every year. Any difference between the expenditure reported in the IUFRs and those reported in the annual project audit reports will be analyzed and those expenditures, which are confirmed by the Bank as not being eligible for funding will be adjusted in the subsequent disbursements. The entity auditor will be considered for carrying out the project audit based on the experience of the firm. The audit report will be submitted within nine months of the financial year closure. The draft ToR has been developed. The following audit report will be monitored:

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Implementing Agency	Audit	Auditors	Audit Due Date
KUIDFC	Project PFS	Chartered Accountant	9 months after the end of each fiscal year (March 31)

18. **Internal audit.** This audit will be an integral part of the project design and will cover all activities under the project. The existing corporate internal auditor will be considered for carrying out this audit. The internal audit will cover the payment process for the construction part and will also review the payments being made into escrow. Special emphasis will be made in the ToR to review the revenue collection being remitted by the private operator into the escrow account. The draft ToR would be developed and agreed in the first year as it needs to be aligned to the progress in the field.

19. **Internal control.** All financial controls applicable to routine KUIDFC expenditures will also apply to the expenditures under the project. All payments will be approved or vetted in accordance with the schedule of powers in place for the KUIDFC. All project-related receipts and payments or withdrawals will be reconciled with periodic bank statements.

20. **Retroactive financing.** An equivalent of up to 20 percent of the Bank's contribution to the project will be available for financing eligible project expenditures incurred for a period of one

year before the likely loan signing date. Such expenditures should be related to achieving the project objective and, in the case of procurement, should have followed the Bank's procurement procedure.

21. **Disbursement.** This will be on reimbursable basis as the state will provide the budget for project expenditure. The tentative disbursement categories envisaged for the project along with the allocation and the disbursement percentage are provided in the table:

Table 3.2. Disbursement categories and allocations

Category	US$, millions	Disbursement %
Civil works under Component 1	89.75	75
Operator and O&M fees under Components 1 and 2	7.50	50
Goods, consultancy, IOC, training, and workshop	2.50	20
	99.75	

Fiduciary and Safeguards

22. **Adequacy of FM arrangements.** For this project, there is only one implementing entity. From the FM perspective, the project is mostly based on the existing systems. The FM risk rating for the project is currently 'Substantial'. Overall, the FM arrangements at the KUIDFC after taking the above-indicated steps may be considered adequate to support the use of Bank funds.

23. **Supervision.** The supervision will be limited to half-yearly visits as the risk level is substantial. In the initial year, quarterly visits will be made to ensure that the accounting system is set up and the required output is being derived from the system. Once the system is established, then more desk reviews with half-yearly missions should be sufficient. In the first year, four to five weeks of FM involvement is expected.

Procurement Management

24. Procurement for the proposed project will be carried out in accordance with the Bank's 'Guidelines: Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits and Grants' by World Bank Borrowers dated January 2011, revised July 2014 (Procurement Guidelines); 'Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits and Grants' by World Bank Borrowers" dated January 2011, revised July 2014 (Consultant Guidelines); and the provisions stipulated in the Legal Agreement. The project will be subject to the Bank's Anticorruption Guidelines, dated October 15, 2006, and revised in January 2011.

25. **e-procurement system.** The KUIDFC is using an e-procurement system for all its procurements above the estimated value of INR100,000 as required by the state government circulars. The assessment of the e-procurement system used by the state and the KUIDFC (HP system) has been carried out as per the multilateral development banks' requirements, as part of the earlier project preparation in Karnataka and the system has been provided acceptance for use under the Bank-funded projects.

26. The following major procurements are envisaged under the Project.

Procurement of Works

27. **Capital works following conventional item rate.** The works envisaged to be undertaken under each of the cities include rehabilitation of existing infrastructure to maximize their value and deliver services at their designed capacities and procurement of new assets such as raw water, pumping, water treatment, and so on, to augment the system to meet water demand. The private operator will be responsible for carrying out the procurements following the Bank guidelines.

Procurement of Goods

28. Procurement of goods for the proposed Project will include the following:

(a) Procurement of systems to support utility management (for example, GIS, MIS, software, hardware, and so on)

(b) Procurement of equipment to improve system operations (for example, leak detection equipment) and facilitate efficient utility operations (for example, trucks and vehicles)

29. While proprietary software will be procured by direct contracting, other goods and software will be procured following the International Competitive Bidding (ICB), National Competitive Bidding (NCB), and shopping methods and having framework agreements. Framework agreements using the Directorate General of Supplies & disposals (DGS&D) rate contracts can be used to procure goods up to the NCB threshold subject to incorporation of the right to audit and fraud and corruption clauses. The Standard Bidding Documents of the Bank as agreed with the GoI task force (as amended from time to time) for all procurement under NCB will be used. For ICB contracts, the Bank's latest Standard Bidding Documents will be used.

Selection of Private Operator

30. The RFQs for selection of the private operators for the three cities were published between January 30, 2014 and March 1, 2014. The responses were received during June 2014. The evaluation was completed in September 2014 and approval of the Empowered Committee obtained in January 2015. The RFP including the operator contract was issued to the prequalified bidders in March 2015 and the bids were received in early October 2015. The operator contract is fairly innovative and has not been tried before (except in a limited way in the KUWASIP) in India. The award of contract to the preferred bidder for one city—Hubballi-Dharwad—has been finalized in February 2016. The process for re-issuing the tender for Belagavi and Kalaburagi is underway and Karnataka is hopeful of finalizing the award of operator contracts for these cities by December 2016..

Selection of Consultants

31. The project includes the following consultancy services: (a) expert reviewer for independent review of the SIP and other important activities to be undertaken by both parties in the operator contract; (b) technical auditor to assist in independent review of ongoing works and adherence to performance standards under the contract; and (c) consultant for M&E, capacity-building activities, and so on.

32. The full details of the procurements to be carried out under the project will be finalized during appraisal.

Procurement Capacity and Risk Assessment of Implementing Agencies

33. **e-procurement system**. The KUIDFC is using an e-procurement system for all its procurements above the estimated value of INR 100,000 as required by the state government circulars. The Karnataka state e-procurement system (HP system) assessment was carried out against the multilateral development banks' requirements and has been accepted for procurement by the Bank.

34. **Procurement capacity assessment.** The proposed Project will be implemented by the KUIDFC and the ULB with all procurements envisaged to be carried out by the KUIDFC and the ULB. The KUIDFC procurement staff have experience in handling procurement functions in accordance with the Bank policies and procedures, having successfully handled procurement activities under earlier Bank-funded projects. The ULB, however, has limited experience in procurement under the Bank-funded project and has not handled PPP transactions in the past and, as such, the procurement and contract management staff have weak experience and capacity.

35. **Procurement risk assessment**. Though the KUIDFC has adequate procurement capacity for implementation of conventional contracts, there is limited experience in handling long duration PPP contracts. The Procurement Risk Assessment and Management System (PRAMS) was carried out and finalized and based on the assessment, the procurement risk rating is High and mitigation measures have already been built into the system. Implementation of these measures is likely to bring the risk rating to Substantial.

36. **Record keeping**. All records pertaining to the award of tenders—including bid notification, registration pertaining to the sale and receipt of bids, bid opening minutes, bid evaluation reports and all correspondence pertaining to bid evaluation, communication sent to or with the Bank in the process, bid securities, approval of invitation or evaluation of bids by the Empowered Committees—are maintained in the KUIDFC or ULB as electronic and physical files. Further, the KUIDFC or ULB maintains records relating to variation orders, monthly progress reports prepared by the project, monthly/quarterly/annual progress reports furnished by consultants covering physical/financial/contractual issues, inspection reports of the ULB officers, correspondence of claims, final award on claims, and so on. For each contract, a separate file will be maintained.

37. The PRAMS had been carried out for the KUIDFC and procurement risk rating is Substantial. The KUIDFC has already prepared the RFQ, RFP, and operator contract and these have been reviewed by the Bank to ensure compliance to fairness, transparency, efficiency, and economy. The PIUs to be appointed at the city level will provide support on procurement and contract management. During the life of the project, some of these responsibilities will be transferred to the SPV subject to sufficient capacity being in place.

Procurement Plan

38. For contracts to be financed by the Bank, the different procurement methods or consultant selection methods, the need for prequalification, estimated costs, prior review requirements, and time frame are agreed between the borrower and the Bank in the Procurement Plan.

39. **Procurement Plan and readiness**. The draft Procurement Plan for procurement to be taken up during the first 18 months of project implementation is under preparation and is enclosed as appendix 1 to annex 3.

40. The Procurement Plan will be updated at least annually or as required to reflect the actual project implementation needs and improvements in institutional capacity. It will also be available on the KUIDFC or ULB website and on the Bank's external website. Procurement monitoring software will be implemented for monitoring the Procurement Plan.

41. **Disclosure of procurement information**. The following documents shall be disclosed on the KUIDFC website: (a) Procurement Plan and updates; (b) invitation for bids for goods and works for all ICB, NCB, and shopping contracts; (c) request for expression of interest for selection or hiring of consulting services; (d) contract awards of goods and works procured following ICB or NCB procedures; (e) list of contracts or purchase orders placed following shopping procedure on quarterly basis; (f) short list of consultants; (g) contract award of all consultancy services; (h) list of contracts following DC or selection based on consultants' qualifications or single-source selection on a quarterly basis; (i) monthly financial and physical progress report of all contracts; and (j) action taken report on the complaints received on a quarterly basis.

42. The following details shall be sent to the Bank for publishing in the UN Development Business online and the Bank's external website: (a) invitation for bids for procurement of goods and works using ICB procedures; (b) request for expression of interest for consulting services with estimated cost more than US$300,000; (c) contract award details of all procurement of goods and works using the ICB procedure; (d) contract award details of all consultancy services with estimated cost more than US$300,000; and (e) list of contracts or purchase orders placed following single-source selection or selection based on consultants' qualifications or DC procedures on a quarterly basis.

43. Further, the KUIDFC or ULB will also publish on their websites, any information required under the provisions of *suo moto* disclosure as specified by the Right to Information Act.

44. **Post review**. All contracts not covered under prior review by the Bank will be subject to post review during Implementation Support Missions and/or special post-review missions, including missions by consultants hired by the Bank.

45. **Frequency of procurement supervision**. Two missions in a year, each at an interval of six months are envisaged for procurement supervision of the project.

Contract Management

46. A fully staffed PIU will be responsible for overall project or contract management. The team will be assisted by a multi-skilled project management consultant team engaged to provide overall implementation support and monitor all works and consultancy contracts. Moreover, an e-contract management system will be developed to monitor the overall project progress, critical contract management milestones, and reporting. Specific contract or project management training will be organized for all the PIU staff at suitable frequencies.

Draft Procurement Plan

I. General

1. Project Information

Country : India

Borrower : Government of India

Project Name : Karnataka Urban Water Supply Modernization Project

Loan Credit No. :

2. Bank's Approval Date of the Procurement Plan : 29th February 2016

3. Date of General Procurement Notice : January 09, 2014

4. Period Covered by this Procurement Plan : 18 months

II. Goods, Works, and Non-consulting Services

1. Prior Review Threshold

Method of Procurement	Thresholds for Method	Prior Review Threshold (US$)
ICB (Goods)	> US$ 3 million	First contract irrespective of value and all contracts above 1 million
NCB (Goods)	> US$100,000 and up to US$3 million	
Shopping (Goods)	Up to US$100,000	
ICB (Works)	> US$40 million	First contract and all other contracts above 10 million
NCB (Works)	> US$100,000 and up to US$40 million	
Shopping (Works)	Up to US$100,000	
ICB (Non-consulting Services)	> US$1 million	First contract and all other contracts above 1 million
NCB (Nonconsulting Services)	< US$1 million	
Direct Contracting	No threshold; see paragraph 3.7 of the Procurement Guidelines	All contracts above 100,000

Note: The prior review threshold will be reviewed during the implementation of the project and modified. The above thresholds shall be applicable to the procurements carried out by the private operator.

47. In the case of contracts subject to prior review, before granting or agreeing to (a) a material extension of the stipulated time for performance of a contract; (b) any substantial modification or waiver of the scope of services or other significant changes to the terms and conditions of such contract, including issuing; (c) any change variation order or orders under such contract amendment (except in cases of extreme urgency) which will, in aggregate, singly or combined with all variation orders or amendments previously issued, increase the original contract amount of the contract by more than 15 percent; or (d) the proposed termination of the original price contract, the borrower shall seek the Bank's 'no objection' to the proposed extension, modification, or change order.

48. A copy of all amendments to the contract shall be furnished to the Bank for its record.

2. **Prequalification** is applicable.

3. Reference to Project Operational/Procurement Manual

49. Standard Bidding Documents agreed between the project and the Bank will be used for all goods, works, and consultancy services procurements under the project, including for procurements being carried out by the private operator.

4. Any Other Special Procurement Arrangements

International Competitive Bidding

50. All contracts for works and goods awarded using ICB procedures under section II of the Procurement Guidelines shall be subject to prior review according to appendix 1 of the Procurement Guidelines. No ICB procurement is envisaged under this project.

National Competitive Bidding

51. The NCB method for procurement and goods and works as per the above value thresholds will be conducted in accordance with paragraph 3.3 and 3.4 of the Bank's Procurement Guidelines and the following provisions:

(a) Only the model bidding documents for NCB agreed with the GoI task force (and as amended from time to time) shall be used for bidding.

(b) Invitations to bid shall be advertised in at least one widely circulated national daily (or on a widely used website or electronic portal with free national and international access along with an abridged version of the said advertisement published in a widely circulated national daily, among others, giving the website or electronic portal details from where the invitation to bid can be downloaded) at least 30 days before the deadline for the submission of bids.

(c) No special preferences will be accorded to any bidder either for price or for other terms and conditions when competing with foreign bidders, state-owned enterprises, small-scale enterprises, or enterprises from any given state.

(d) Extension of bid validity shall not be allowed with reference to contracts subject to the Bank's prior review without the prior concurrence of the Bank: (i) for the first request for extension if it is longer than four weeks and (ii) for all subsequent requests for extension irrespective of the period (such concurrence will be considered by the Bank only in cases of force majeure and circumstances beyond the control of the purchaser or employer).

(e) Rebidding shall not be carried out with reference to contracts subject to the Bank's prior review without the prior concurrence of the Bank. The system of rejecting bids outside a pre-determined margin or 'bracket' of prices shall not be used in the project.

(f) Rate contracts entered into by Directorate General of Supplies and Disposals will not be acceptable as a substitute for NCB procedures unless agreed with the Bank on a case-to-case basis. Such contracts will be acceptable, however, for any procurement under the shopping procedures. Framework agreements using the DGS&D rate contracts can be used to procure goods up to the NCB threshold, subject to incorporation of right to audit and fraud and corruption clauses.

(g) Two- or three-envelope system will not be used (except when using the e-procurement system assessed and agreed by the Bank).

(h) No negotiations are conducted even with the lowest-evaluated responsive bidders.

52. The above provisions for use of Standard Bidding Documents will apply to procurements carried out by the private operator.

5. **Domestic preference.** The provisions of paragraphs 2.55 and 2.56 of the Procurement Guidelines, providing for domestic preference in the evaluation of bids is not applicable.

6. The bid evaluation will be carried out as per the agreed timeline in the Procurement Activity Schedule.

7. **Performance-based management contract (operator contract).** There are no Standard Bidding Documents for performance-based management contracts following PPP procedures. The RFQ and the RFP documents prepared under the Karnataka State Highway Improvement Project - 2 have been used by the KUIDFC as a base and modified to suit the requirements of the project.

8. A summary of the procurement packages planned during the first 18 months after project effectiveness (including those that are subject to retroactive financing and advance procurement) is presented in Table 3.3.

Table 3.3. Procurement of Works, Goods, and Non -consulting Services

1	2	3	4	5	6	7	8	9	10
Ref. No.	**Contract (Description)**	**Estimated Cost (INR millions)**	**Estimated Cost (equivalent US$, millions)**	**Procurement Method**	**Prequalification (Yes/No)**	**Review by Bank (Prior/Post)**	**Expected Bid Opening Date**	**Expected Contract Award Date**	**Remarks**
KUIDFC/KUWSMP/OPR-HD/03	Procurement of Services of Operator for Cost-effective and Sustainable Up-scaling of Continuous (24x7) Pressured Water Supply, its Operation and Management in Hubballi-Dharwad City	10,941	182.4[a]	ICB	Yes	Prior	Oct 2015	Feb 2016	
	TOTAL	22,726	378.8						

Note: a. Including the cost of CAPEX, which is pass-through money of US$118.3 million (works and utility systems [to be executed by private operator as construction manager]).

III. Selection and Employment of Consultants

53. All consulting contracts will be awarded following the procedures in section II (Quality- and Cost-Based Selection [QCBS]) of the Bank's Consultant Guidelines. Short lists may consist entirely of firms registered and incorporated in India if the estimated cost is less than US$800,000.

54. All other consulting contracts will be awarded following the Selection Based on the Consultants' Qualifications (CQS) method as per paragraph 3.7 or section V (Selection of Individual Consultants) of the Consultant Guidelines, as appropriate.

1. Prior Review Threshold

Method of Procurement	Threshold (US$ equivalent)	Prior Review Threshold
(a) Quality- and Cost-Based Selection	No threshold	First two consultancy contracts and subsequently, all other contracts above US$0.5 million
(b) Quality-Based Selection	No threshold	
(c) Selection under a Fixed Budget	No threshold	
(d) Least-Cost Selection	No threshold	
(e) Selection Based on Consultants' Qualifications	< 300,000	
(f) Single-Source Selection of firms	As per Consultant Guidelines para 3.9	All contracts above US$100,000
(g) Selection of Individual Consultants	No threshold	First two contracts and all contracts above US$100,000. In case of contracts to individuals, the qualifications, experience, ToR, and terms of employment shall be subject to prior review.

Note: The prior review thresholds will be reviewed during the implementation of the project and modified. The above thresholds shall be applicable for the procurements to be carried out by the private operator.

55. In the case of contracts subject to prior review, the borrower shall seek the Bank's 'no objection' before agreeing to (a) an extension of the stipulated time for performance of a contract; (b) any substantial modification of the scope of services, substitutions of key experts, or other significant changes to the terms and conditions of the contract; or (c) the proposed termination of the contract,. A copy of all amendments to the contract shall be furnished to the Bank for its record.

56. **Short list consisting entirely of national consultants**. Short list of consultants for services, estimated to cost less than US$800,000 equivalent per contract may consist entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines.

57. The Request for Expression of Interest for consultancy services estimated to cost above US$300,000 equivalent per contract for firms shall be advertised in UN Development Business online and the Bank's external website in accordance with other provisions of para 2.5 of the Consultant Guidelines.

2. Any other special selection arrangements. None.

3. Consultancy assignments with selection methods and schedule

Sr. No.	Ref. No.	Description of Assignment	Estimated Cost (US$, millions)	Selection Method	Review by Bank (Prior/ Post)	Expected Proposals Submission Date	Expected Contract Award Date	Comments
1	KUIDFC/ KUWSMP/ TA-HD/03	Services of technical auditor for Hubballi-Dharwad City of Karnataka, India	0.980	QCBS	Prior	Jun 2016	Nov 2016	
2	KUIDFC/ KUWSMP/ER /01	Services of expert reviewer for Hubballi-Dharwad City of Karnataka, India	0.970	QCBS	Prior	Apr 2016	Sept 2016	
3	KUIDFC/KU WSMP/NGO/ 01	Implementation of Communication and social intermediation strategy (ISIS) in Hubballi City of Karnataka, India	0.38	QCBS	Post	May 2016	Sept 2016	Multiple
4	KUIDFC/KU WSMP/NGO/ 01	Implementation of Communication and social intermediation strategy (ISIS) in Dharwad City of Karnataka, India	0.19	QCBS	Post	May 2016	Sept 2016	Multiple
5	KUIDFC/ KUWSMP/ IE/01	Impact evaluation (city level) for the eligible city	0.c	QCBS	Prior	Sept 2016	Dec 2016	
6	KUIDFC/ KUWSMP/ IE/01	ULB/SPV institutional study	0.50	QCBS	Prior	Aug 2016	Oct 2016	
7	KUIDFC/ KUWSMP/ IE/01	Dam safety analysis	0.33	QCBS	Post	Oct 2016	Dec 2016	
		Total	4.02					

IV. Implementing agency capacity-building activities with schedule

No	Expected Outcome/Activity Description	Estimated Cost	Estimated Duration	Start Date	Comments
1.	Administrative Staff College of India training on procurement procedures arranged for executive and assistant engineers who are responsible for procurement		2 weeks		
2.	Contract management training		2 weeks		

Environmental and Social (including Safeguards)

Social (including Safeguards)

58. Social assessments conducted for Hubballi-Dharwad has confirmed that the project offers a potential for significant social benefits as it will enable potable water supplies within households for everyone, including the poor and women folk. This will result in substantial reduction in time spent by women and children in fetching water from a distance, thus reducing the severe drudgery that they otherwise suffer. Further, this will lead to health and hygiene benefits and, consequently, reduction in medical expenditures on water-related diseases and associated income losses. There are a few adverse impacts, which, however, are not significant and easily manageable. Key issues in this context relate to (a) temporary disturbances to the households while laying pipelines restricting ease of access as well as limiting water supplies from the existing sources; (b) project's interface with the local communities warranting an effective information, education, and communication campaign; (c) responsible and responsive grievance redressal mechanism; and (d) obtaining certain parcels of private land that is required for construction of assets. The first three issues have been addressed as a part of the project's institutional and implementation arrangements, the issue of land falls in the realm of 'safeguards'.

59. The Project does require land for (a) water source—ground and/or surface sources; (b) pipelines -transmission/feeder mains as well as distribution networks; (c) pumping stations and a service reservoir; and (d) treatment plants. Given that water sources are already established, and that the pipelines are laid at least 90 cm below the ground, no parcels of land are to be secured. However, permission from the landowners for laying pipelines will need to be obtained. With respect to the remaining, land is essential. The project's overall requirement of the land is estimated at about 6 ha, of which 5 ha belongs to the government and is free of encumbrances. Thus, private land requirement works out to 1 ha across three land parcels. As the requirement is quite small, the project is exploring purchase of lands at a negotiated price if the landowner(s) are willing. While the total land requirement is rather definite, exact location for housing a facility will be known only after the preparation of an SIP, including the detailed designs for the civil works (including hydraulic modelling), which will be done within nine months of the commencement of the start-up period. However, the option of involuntary acquisition is retained to address any unforeseen situation. This in view, OP 4.10 - Involuntary Resettlement is triggered. Given this, it is decided to adopt a framework approach, that is, an RPF. OP 4.10 has not been triggered as there are no tribal habitations with unique sociocultural identity in relation to the mainstream population in the project areas as revealed by the SESA studies in the project cities.

60. **Resettlement Policy and Framework.** The RPF has been prepared following the provisions of OP 4.12 and the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013. This shall be adopted during implementation as and when private lands are to be acquired involuntarily and an RAP will be prepared. The salient features of the framework include compensating the affected properties with replacement cost; assisting the affected title and non-titleholders with R&R assistance; and relocation support for the affected community or commonly owned properties. The key components of the RPF include (a) an entitlement matrix; (b) an approach for addressing the special needs of the female-headed and vulnerable families; and (c) guidelines for free prior, and informed consultation with the communities and their participation; (d) information disclosure; (e) grievance redressal mechanism; and (f) M&E.

61. **Gender and social inclusion approach**. The RPF provides additional support measures over and above the regular support, particularly to the vulnerable and female-headed families. Specifically, the measures for women include the following: (a) gender-disaggregated data will be collected during detailed surveys and separate women focus group discussions will be conducted to address specific women-related issues under the subproject; (b) any direct adverse impact of the subproject on female-headed households will be taken up on a case-to-case basis and rehabilitation of these households will be treated as priority under the subproject; (c) during disbursement for rehabilitation assistance and compensation, priority will be given to female-headed households; and (d) joint ownership in the name of husband and wife will be offered in case of non-female-headed households. Assistance will be provided to vulnerable families: (a) including in government welfare schemes, if eligible as per government criteria; (b) one-time lump sum assistance; and (c) additional benefits to SC and ST as per the provisions of the RFCTLARR Act 2013.

62. **Consultation and disclosure**. The KUIDFC conducted city-level stakeholder consultations for Hubballi-Dharwad between February and November 2014 to discuss the project objectives and key concerns of the stakeholders. The elected council passed and ratified a resolution affirming the project design. More such community or stakeholder consultations will be carried out during implementation of the project. The RFP, ESA, and other relevant safeguard documents for Hubballi-Dharwad were disclosed locally on the KUIDFC website on January 7, 2015, and by the eligible city on January 13, 2015, in compliance with the Right to Information Act, 2005 and the operational policies of the Bank. These documents have also been disclosed at the Bank's InfoShop on January 8, 2015. The borrower will establish a two-stage grievance redressal mechanism with clear guidelines for grievance uptake, registration, acknowledgement, follow-up and resolution, and feedback. Belagavi and Kalaburagi have also completed city level stakeholder consultations and ratification by the elected councils. The RFP, ESA and other relevant safeguard documents have been disclosed locally in KUIDFC's website and also by the two cities. These documents were also disclosed in the Bank's InfoShop on January 8, 2015.

63. **Implementation arrangements**. The KUIDFC will manage the overall safeguard management activities of the project with the help of the environmental and social management cell consisting of environmental and social safeguard specialists (one each). At the city level, professionals with environmental and social expertise with the PIU will ensure the implementation of safeguard measures. Overall, the Empowered Committee under the additional chief secretary will review and oversee the implementation of the RPF. A third-party quality audit agency will be appointed to provide independent monitoring on the implementation of the RPF. Specific RAPs at subproject level will be prepared by the PIU and

will need to approved by the PMU. The city-level PIU will be responsible for implementation of the RAPs.

64. **Grievance redress mechanism .** Communities and individuals who believe that they are adversely affected by a Bank-supported project may submit complaints to existing project-level grievance redress mechanisms or the Bank's GRS. The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. The project-affected communities and individuals may submit their complaints to the Bank's independent Inspection Panel which determines whether harm has occurred, or could occur, because of the Bank's noncompliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the Bank's attention and the Bank management has been given an opportunity to respond. For information on how to submit complaints to the Bank's corporate GRS, please visit http://www.worldbank.org/GRS. For information on how to submit complaints to the Bank's Inspection Panel, please visit www.inspectionpanel.org.

Monitoring and Evaluation and Budget

65. Annual safeguards audits will be carried out to record achievements and lessons learned and update the RPF to meet emerging issues and risks. The project will provide a budget for implementing the specific RAPs. The budget for land and R&R will be provided by the GoK through its counterpart funding arrangements.

Environment Management

66. **ESA and ECoP.** Considering the city-wide water supply network expansion envisaged in the project and its potential to cause environmental and safety issues to the communities, the KUIDFC has carried out a city-specific ESA and prepared EMP for Hubballi-Dharwad. Further, to guide the private operator during the start-up, transition, and sustaining phases of the project, an ECoP has also been prepared. The EMP and the ECoP are integrated into the operator contract and will ensure that all environmental management issues are adequately mitigated by the private operator. Similar ESAs, EMPs and ECoPs have been prepared for Belagavi and Kalaburagi.

67. **Environmental impacts**. The project activities involve augmentation of bulk water supply facilities, upgrade of water treatment facilities, strengthening of transmission lines, replacement or laying of water supply pipelines across cities, construction of storage reservoirs (overhead or underground), and so on. The project however does not involve development of new water supply sources or laying of entirely new transmission lines and avoids major impact associated with activities such as land acquisition, impact on sensitive geological and forest areas, and direct impact on major physical and cultural properties. The ESA carried out for Hubballi-Dharwad confirms that the project interventions do not cause significant irreversible impact but may result in impact during the construction phase due to (a) laying water supply lines, (b) diversion of traffic, (c) safety hazards to the communities, (d) temporary impact on local drainage, (e) temporary impact on access to local resources, and (f) construction and operation phase air/noise pollution impact on sensitive receptors like schools and hospitals due to pumping stations and service reservoirs.

68. Series of stakeholder consultations have been carried out in in Hubballi-Dharwad with the stakeholders of the project area to (a) provide a better understanding of the potential impact; (b) appreciate the perspectives or concerns of the stakeholders; and (c) secure their active

involvement during finalization of the EMPs. Consultations were designed in such a way that (a) affected people were included in the decision-making process; (b) links between communities and their natural, physical, and cultural resources base adjacent to project locations were safeguarded; (c) public awareness and information sharing on project alternatives, benefits, and entitlements were promoted; and (d) views on designs and solutions from the communities were solicited.

69. **EMP at city level**. The proposed EMP at city level city comprises specific measures to mitigate and minimize impacts such as barricading the construction area, cross drainage provisions, management of construction sites, and impact on local communities. The measures also include appropriate cost provisions to be included in the bill of quantities for works that ensures protection of environment, community, and cultural properties. These measures addressing construction stage and operation stage impact and monitoring, reporting, and supervision protocols have also been integrated in the draft contract for the private operator and ECoP to be followed during planning, design, and operation phase by the private operator.

70. An ECoP has also been developed to address environment safeguard issues during the start-up, transition, and operation phases of the project to be implemented by the private operator. The ECoP provides detailed guidance to the operator in delivering his responsibilities during the start-up, transition, and operation phases of the contract. The ECoP also defines the approach to be followed in identifying the environmental issues during the planning, designing, and operation phases of the project; need for carrying out environmental assessment; and preparation of EMP for various activities of the 24x7 water supply project.

71. **Regulatory clearances.** The prevailing environmental regulations of the GoI do not require securing environmental clearances for urban water supply projects. However, during the construction phase, the private operator will require permissions from various local authorities to establish construction facilities. These requirements have also been integrated in the contract documents to ensure obtaining such approval by the contractor before initiation of various activities and compliance through the construction phase.

72. **EMP implementation.** Based on the initial design reports developed in preparation for the 24/7 water supply systems in Hubballi-Dharwad, EMP have been prepared by the KUIDFC. The city level EMP will be implemented by the private operator during the start-up phase, updated based on the investment plans to be developed during the transition phase, and implemented during the operation phase. The institutional mechanism for effective implementation of the EMP is ensured through the safeguard specialists of the KUIDFC (PMU) and also at the city-level PIU or SPV. The city-level, environmental and social professionals with the PIU will supervise and ensure implementation of the EMP and the ECoP agreed for the project.

Safeguard Policies

73. **Safeguard policies triggered.** The physical interventions proposed under the project could result in environmental and social impacts, including temporary impacts on community and cultural resources, land acquisition, and involuntary resettlement of the local population. Considering the above, the project has been categorized as Category B as per the safeguard policy on Environment Assessment (OP/BP 4.01) and has triggered three safeguards policies as indicated in Table 3.4.:

Table 3.4. Safeguard policies triggered by the project

Policy	Yes	No
Environmental Assessment (OP/BP 4.01)	[X]	[ ]
Natural Habitats (OP/BP 4.04)	[ ]	[X]
Pest Management (OP 4.09)	[ ]	[X]
Physical Cultural Resources (OP/BP 4.11)	[X]	[ ]
Involuntary Resettlement (OP/BP 4.12)	[X]	[ ]
Indigenous Peoples (OP/BP 4.10)	[ ]	[X]
Forests (OP/BP 4.36)	[ ]	[X]
Safety of Dams (OP/BP 4.37)	[X]	[ ]
Projects in Disputed Areas (OP/BP 7.60)	[ ]	[X]
Projects on International Waterways (OP/BP 7.50)	[ ]	[X]

Safety of Dams (OP/BP 4.37)

74. The Project relies on the performance of two existing dams, each higher than 15 meters, to deliver water services in the eligible city. The water supply systems draw directly from the reservoirs controlled by these dams or depend on their operation for ensuring supplies. As such OP 4.37 - Safety of Dams is triggered.

Table 3.5. Details of dams associated with the project

Dam Name	Cities	Built Year	Owner	Catchment Area (km^2)	Height (m)	Total Crest Length (m)	Total Reservoir Capacity (million m^3)	Spillway capacity (m^3/s)
Neerasagar	Hubballi/ Dharwad	1955	KUWSDB	181	30	1387	29	1048
Malaprabha	Hubballi/ Dharwad	1973	KNNL	2175	48 *	155	1070	5239

Note: *KNNL = Karnataka Neeravari Nigma Limited.

75. A preliminary O&M plan and a framework EPP covering the two dams based on the templates acceptable to the Bank were found satisfactory to the Bank at appraisal. The GoK has agreed to

(a) update or prepare dam O&M plans and EPPs for dams under the project in a manner satisfactory to the Bank no later than one year from the date of project effectiveness;

(b) submit such plans for the Bank's approval; and

(c) carry out any civil or remedial works on the dams in a manner satisfactory and acceptable to the Bank no later than two years from the date of project effectiveness.

76. Funds are provided under Component 3 of the project to finance the plans under item (a).

77. **Environmental Assessment (OP/BP/GP 4.01)**. Complying with Category B Partial Assessment of the Bank, the ESA has been carried out and the EMPs have been prepared for Hubballi-Dharwad. The EMPs have also been integrated with relevant implementation mechanisms including project implementation contracts, and institutional set up for implementation of the project.

78. **Disclosure**. The ESA and the ECoP documents for Hubballi-Dharwad have been disclosed locally by the KUIDFC and at the city level on January 7, 2015 and January 13, 2015, and have also been disclosed at the InfoShop on January 08, 2015.

Annex 4: Implementation Support Plan

India: Karnataka Urban Water Supply Modernization Project (P130544)

Strategy and Approach for Implementation Support

1. The Project counterpart is based in Bangalore in South Karnataka and around eight hours drive from the project city in the North. To address this geographic spread and the time that will be required to visit the city, the Bank's core team will work with consultants based in Karnataka. That way the consultants can visit and review progress in each city under the direction of the Bank's team and then report their findings back to the Bank's team during each mission.

2. In addition to formal supervision missions, it is anticipated that the clients will need focused support in the early period of implementation. For that, the Bank's team will mobilize staff and consultants as needed to provide timely advice.

3. The Bank recognizes that the reforms and improvements planned under this project may take up to 10 years to be fully internalized and institutionalized at the city level. This goes beyond the life of the project. The Project will finance the first two periods of the PPP arrangement lasting four years. The third (sustaining) period will be financed entirely by the cities. The project support will aim to ensure that Hubballi-Dharwad, and its SPV, are well equipped to effectively manage the sustaining period.

Implementation Support Plan

4. The Bank's supervision missions will be undertaken at least twice a year. These twice-yearly supervision missions will include the task team leader, co-task team leader, procurement and FM staff, environmental and social safeguards staff, and technical and institutional specialists and consultants, as appropriate. A team of specialist consultants will be recruited to support the Bank team in reviewing the implementation progress before the missions. In addition, interim Implementation Review Missions will be undertaken by members of the project team, as required. The following are the major areas to be covered in the Implementation Review Missions:

(a) **Institutional arrangements.** The Bank's team will review the implementation of the decentralized arrangements, including the roles and responsibilities of all the different actors under the project implementation arrangements (PMU, PIU, SPV, and other concerned state institutions).

(b) **Implementation progress of WSS schemes.** The Bank's team will review the progress in the implementation of the schemes in the city and will address related issues (if any).

(c) **Safeguards.** The supervision of the safeguard aspects of the project will entail verification that the Environmental and Social Management Plan is being appropriately implemented and adjusted as deemed necessary.

(d) **Procurement.** Implementation support will include (i) ex ante and ex post reviews of project procurement; (ii) review of the Procurement Plan and procurement performance; and (iii) providing information on training resources, preparation of

training material and modules and needs-based training on the Bank's Procurement Guidelines to the implementing agencies. In addition, guidance on any necessary revisions to the Procurement Manual, the Procurement Plan, and the bidding documents will be provided by the Bank's procurement specialist as deemed necessary, based on actual implementation experience. The Bank's implementation team will make recommendations for any improvements as judged necessary.

(e) **Financial management.** The Project will require in-depth and intensive supervision in the initial years, especially to ensure successful implementation of the agreed FM arrangements. This will include field visits to the city-level PIU to review the FM arrangements. Implementation support will also include the review of the periodic IUFRs as the basis for disbursements and reporting expenditures and review of the audit reports, including verifying the adequacy of the resolution of major audit observations.

(f) **Monitoring and evaluation.** The M&E system will be designed to monitor processes, inputs, outputs, and outcomes and capture the physical implementation progress, disbursement, and delivery against the project's Results Framework. M&E data and information will be transparently disclosed.

5. **Midterm review.** A comprehensive mid term review will be conducted to review the implementation performance of all aspects of the Project and to discuss, agree, and take any midterm course corrections deemed necessary.

Annex 5: Communication and Stakeholder Intermediation

India: Karnataka Urban Water Supply Modernization Project (P130544)

1. The success of the KUWASIP demonstration zone pilot has generated widespread demand for scaling up continuous water supply in the three ULBs and this has been articulated in public and political fora. While the results and benefits of the demonstration zone pilot do, to a large extent, help allay possible concerns of stakeholders regarding the sustainability of the operation, early consultations showed that some sections of stakeholders still had concerns and questions, especially around the role of the ULB, the impact on tariffs, the extent of participation of the private sector, provisions to safeguard the interests of the poor, and so on. Given that the proposed project does not envisage any erosion in the public responsibilities for the delivery of water supply services (assets remain the property of the ULB; the service private operator will only help professionalize services; tariffs will be set by the elected city council; subsidies for the poor, and so on), it is important that these key aspects are fully communicated to the stakeholders. To ensure that the popular demand is not eroded and is, in fact, consolidated as support for the project, it is imperative that robust communications is maintained with key stakeholders.

2. **Communication objectives**. The KUIDFC, which will oversee the implementation of the KUWSMP, recognizes the need for mainstreaming public outreach activities into the project, much as it had successfully done under the KUWASIP. The communication and public outreach efforts financed under the project will be aimed at (a) building broad support and consensus for the project; (b) identifying and addressing the genuine concerns of stakeholders, throughout the project duration; (c) facilitating behavior change in users that is needed to optimize benefits from a 24/7 water supply (such as linking their individual houses to the city network or maintaining repayment discipline, and so on); and (d) setting up institutional forums for stakeholder interaction and grievance redressal.

3. **Communication approach**. The KUIDFC commissioned the formulation of a CSIS aimed at ensuring that all relevant stakeholders are involved in the planning and implementation and post implementation phases of the project and at helping identify and forge the policies and strategies needed for enhancing the sustainability of the infrastructure created.

4. The consultants conducted a detailed assessment of the enabling environment in all three cities through a multilayered exercise that includes a household level survey of more than 10,250 households and focus group discussions with all major stakeholder groups, including citizens, elected representatives at all levels, NGOs and CSOs, media, water supply utilities, the ULB officials; and wider stakeholder meetings.

5. The CSIS has identified a range of interventions, including, but not limited to, mass media initiatives (television/cable/radio as well as outdoor materials); direct interactions with stakeholders (especially citizens); media engagement; the use of social media; and the development of platforms and champions to help generate a shared consensus around the project. Based on this approach, the CSI Plans for each city will be drawn up.

6. **Ongoing consultations**. The KUIDFC has also undertaken targeted consultations with key stakeholders to inform the project design process including public meetings in each ULB attended by a range of stakeholders from the city. Consultations, especially at the grassroots level of city wards, will have to remain an ongoing activity under the project.

7. **Implementation arrangements.** The KUIDFC will set up a CSI Unit, which will oversee the stakeholder outreach activities for the project. It will coordinate the activities of city-level CSI cells that are to be housed in the PIU/SPV. The CSI cells will implement the CSI Plan that will be drawn up for Hubballi-Dharwad and will also hire the services of an NGO to conduct the grassroot-level social intermediation activities. The city-level CSI cell will also coordinate outreach activities of the private operator whose obligations on outreach to the local community have been detailed in the contract document. The CSI Cells will comprise a specialist each for the Communications and Stakeholder Engagement functions.

8. Given the possible complexity of stakeholder outreach under the Project KUIDFC will set up CSI Unit (CSIU) at the state level to oversee the effort. This Unit will provide technical and strategic direction to the city-level CSI Cell and will, with the assistance of external consultants, develop some of the content and materials needed for strategic outreach.

Roles and Responsibilities

9. Communications and Social Intermediation Unit in the KUIDFC

- Oversight of the development of CSIS for each eligible city
- Annual planning and coordination of the CSIS activities in the cities
- Monthly review and monitoring of the CSIS activities in the cities
- Hiring of professional agencies for developing mass media and outreach materials (prototype development and mass production wherever possible or needed)
- Managing media relations (state and national level media)
- Orientation and training of city-level CSIS staff as and when needed
- Documentation and knowledge management at project level
- Sector advocacy
- Oversight and management of the social accountability activities

10. City-level CSI cells

- Develop CSIS in collaboration with the KUIDFC and the CSIU for cities across different stages of project—design, implementation, and O&M.
- Implement CSIS through NGOs, private operator' community liaison cells, and any other entity needed.
- Manage day-to-day operations of NGOs.
- Collaborate closely and oversee all outreach activities of the service operator.
- Engage with key stakeholders in the city (elected representatives, media, NGOs, community-based organisations, corporation officials, and other institutions) on a day-to-day basis.
- Manage media relations for the project at the city level.
- Manage the project website for the city and other social media outreach.
- Document activities, lessons learned, and so on an ongoing basis.
- Conduct social accountability activities at the city level.

Annex 6: Financial and Economic Analysis

INDIA: Karnataka Urban Water Supply Modernization Project (P130544)

A. Financial Analysis

Proposed Financing Arrangements

1. Under the government order[14] that sanctioned the capital financing contributions for the project, the ULB is required to mobilize 26 percent of the capital costs of the project through commercial borrowing, which shall be repaid by allocating 35 percent of untied SFC grants between 2014 and 2041. These funds are to be held in an escrow account over the same period to be used for debt service related to the project and to finance future debt to meet post-project investment requirements. This account is termed the 'debt service escrow account'. The government order also requires the ULB to set aside other water supply specific grants[15] in this account.

2. The ULB will meet the electricity costs related to water supply operation out of part of the SFC grants. The ULBs will also meet overall shortfalls, if any, in the O&M of water supply function.

3. The tariff revenues will be held in an account called the 'operations escrow account' and payments to the private operator will be made out of this account. The SPV will meet other operational expenses (such as audit fees, the SPV's own staff costs, and so on) from this account.

Financial Modelling Approach

Financing Operations

4. The financials of the operations escrow account summarize the transactions related to water supply operations. Inflows considered are (a) user charges for water supply collected from customers; (b) connection charges; (c) the SFC electricity grants received from water supply account of ULB; and d) other income. Outflows considered are (a) payments to the private operator for water supply O&M; (b) new connection costs from year 5 onwards;[16] (c) payment of electricity charges; d) other expenditure incurred by the SPV related to water supply, such as payment of raw water charges and costs of the technical auditor; and (e) recurring costs of the SPV itself. All maintenance experience during the transition period and major maintenance expenditure during the sustaining period will be reimbursed by the ULB or SPV to the private operator.

Debt Service Financing

5. The debt service escrow account summarizes the transactions at the ULB level related to water supply. The financing approach for the project assumes that the ULB will raise loans to

[14] Government Order No. UDD 244 PRJ 2013, Bangalore, dated 7th November 2013.

[15] For example, the state government has issued guidelines to earmark a portion of the Central Finance Commission grants, provided by the GoI for water supply function, which will also need to be deposited into the ULB escrow account.

[16] Connection costs in the period before year 5 are included in the project costs and are not reflected in the SPV costs.

meet its share of capital costs for the project as per the government order. As per the assumptions in the financial model, the borrowing requirements in Hubballi-Dharwad is 174 crores. The ULB water account receives inflows from (a) the SFC grants for salary, electricity, and untied resources; (b) other grants for water supply; and c) other income. The outflows include (a) payment of salaries for water supply employees; (b) electricity expenses; (c) repayment of interest and principal on the ULB loan; and (d) shortfall, if any, in the operations escrow account.

Financing ULB's Share of Capital Costs

6. The ULB's contribution to the capital costs is expected to be from up-front cash contribution and through market borrowing. As per the government order for financing the project, the ULB is expected to contribute a part of the funds they receive from the Chief Minister's Small Town Development Program (CMSTDP) scheme grants for the project. The government grants in turn are partly mobilized from budgetary sources and partly from market borrowings. This is a firm commitment of the GoK to the ULBs.

7. The KUIDFC will decide on whether to pursue a bank or bond issue, depending on the credit rating, interest rates, and market conditions. ICRA Ltd, a domestic credit rating agency, has provided a provisional rating, which will be confirmed after support from the GoK is formally received. This rating is '[ICRA] A+ (SO)', which signifies the highest degree of safety regarding timely servicing of financing obligations and lowest credit risk. The government order issued for financing the capital financing contributions for the project refers to repayment of the principal and interest thereof by escrowing a portion of the SFC grants.

Results of Financial Analysis

8. The scenarios for each city were based on the experience from the demonstration zone, suitably adjusted when the supply is extended throughout the city. A review of the assumptions in the financial model is given in appendix 1. The analysis shows that Hubballi-Dharwad incurs a cumulative deficit during the transition period in the operations escrow account. In Hubballi-Dharwad, there is a small negative balance in the debt service escrow account, which can be corrected with ULB support during these years.

9. To cope with the deficit in the base case scenario for the operations account, the project's financial support during the transition period has been proposed.

(a) Chemicals, consumables, and major and minor maintenance during the transition period to be met by the project.

(b) A subsidy of 50 percent of operator remuneration will also be provided during the transition period.

(c) The costs of technical auditor for the first four years will be met by the project.

10. The results of the scenarios with transition period financial support are summarized in appendix 2.

11. This additional support improves the financial situation in the transition period in Hubballi-Dharwad where the operations escrow account is in surplus.

Sensitivity Analysis

12. The financials of both the operations and debt service accounts are sensitive to any adverse events. Reduction in the number of connections by 10 percent reduces the EBIDTA margins in Hubballi-Dharwad significantly. Increase in capital costs makes borrowing unfeasible in Hubballi-Dharwad where the average DSCR reduces to 0.7 and there are deficits in the debt service account.

Table 6.1. Sensitivity Analysis

	Reduction in Connections by 10%	Increase in Capital Cost by 10%
Hubballi-Dharwad	Sustaining period EBIDTA reduces from 8.3% to 1.9%	Average DSCR reduces from 1.4 to 0.7

Summary

13. The financial analysis and the sensitivity analysis reflect the risks the project faces, especially during the transition period. Project financial support to the operations escrow accounts will ease the risk associated with the possible deficits. The financial model reinforces the role of the ULB to financially support the operations accounts if the need arises.

14. The ULB currently meets any financial deficits in water service provision through ad hoc transfers. The situation after the project is better with higher levels of cost recovery from user fees because of introducing volumetric tariffs and improving billing and collections. By increasing financial transparency, financial surpluses and deficits will come into sharper focus and allow the ULB to plan how to manage any deficits in a more proactive way. This is a significant benefit from the project. At the same time, the ULB has agreed to cover any shortfalls in the two escrow accounts and there is limited likelihood of default either in its payments for service provision or on debt service.

Appendix 1 - ULB-wise Summary of Key Assumptions in Financial Modelling

Common Assumptions

Table 6.2. Applicable Tariff Schedule - GoK Notified Tariff for 24/7 Supply

Domestic		
Volumetric consumption per month		
0-8 kl	Rs	56
8-15 kl	Rs/KL	9
15-25 kl	Rs/KL	11
>25 kl	Rs/KL	13
Non-domestic		
Volumetric		
0-8 kl	Rs	112
8-15 kl	Rs/KL	18
15-25 kl	Rs/KL	22
>25 kl	Rs/KL	26
Commercial/Industrial		
Volumetric		
0-8 kl	Rs	224
8-15 kl	Rs/KL	36
15-25 kl	Rs/KL	44
>25 kl	Rs/KL	52

Note:

1. Interest on commercial borrowings - 13 percent per year.
2. Interest earned on investment of surplus cash - 7 percent per year.
3. Growth in the SFC untied grants - 12 percent per year.
4. Minor capital expenditure and chemicals are considered as part of capital costs during the transition period.
5. As per the PPP contract, major capital expenditure during the sustaining period will not be part of the private operator's bid and will be reimbursed by the SPV. However, in the financial model, major capital expenditure and minor capital expenditure have been considered as a single item of expense and are not separated.
6. Finance of half of operator remuneration (salary expenses of private operator and margin) during the transition period is paid by the project and 50 percent is borne by the SPV.
7. Costs during the O&M period are as per the engineer's estimates.
8. Private operator rent for years 5–12 not considered in costs at present.

Table 6.3. Hubballi-Dharwad

	Demonstration Zone Standard[17]	Financial Model Assumptions	Remarks
People per connection	6.42	6.43	In line with the demonstration zone
Consumption in m^3 per connection per month	21.52	Year 5 = 20.99 Year 12 = 22.5	Marginally conservative assumption
Revenue per m^3 (INR)	11.32	2018–19 = 11.32	Marginally conservative assumption
Lpcd excluding bulk supply	110.39	Year 5 = 99.8 Year 6 = 107.1 Year 12 = 113.7	Conservative assumption
Collection efficiency	79.9%	Approximately 93.5% on an average	Optimistic assumption, given that private operator is responsible for collection
Revenue other than water user charges (bulk sales, connection charge, other income, and so on)/water user charges	Baseline to be calculated from demonstration zone database	10.95%	Includes bulk water sales, interest income from surplus, and connection charges
Operator fee (INR per month per connection)	Average between 2010 and 2012 = INR 71.6	Year 5 = INR 230.5	Demonstration zone is ex-reservoir whereas model is for the entire supply chain. The costs are not comparable.
Operator fee (INR per m^3)	Approximately INR 3.3 per m^3	Year 5 = INR 8.9	-do-

[17] January 2014 Quarterly Report of WAPCOS.

Appendix 2 - Summary of Operating Escrow Account and Debt Service Escrow Account (With Transition Period Support Scenario)

(a) Comparison of Key Financial Indicators

	Hubballi- Dharwad
Parameter	**Transition Period Support Scenario**
Cumulative surplus/(deficit) during transition period, year 2 to year 4	INR 51.36 crores
Cumulative cash surplus/(deficit) in year 12	INR 84.46 crores
Average EBIDTA[18] during sustaining period (year 5 to year 12)	INR 9 crores (8.3%)
Years with negative EBIDTA in sustaining period	Nil
Own revenue/total expenditure year 5	91.95%
Own revenue/total expenditure year 12	74.53%
Minimum balance in debt service account	Deficit INR 4.5 crores (year 9)
Average DSCR	1.4

[18] Earnings before interest, depreciation, tax, and amortization.

(b) Detailed Model

Hubballi-Dharwad - All Figures in Rs Crores	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12
1. SPV Financials												
Income												
Tariff revenue from 24 X customers retail		19.2	24.7	32.1	45.7	50.2	57.1	59.1	61.1	63.3	65.5	74.5
Tariff revenue from non 24 X 7 customers retail		6.9	4.3	-	-	-	-	-	-	-	-	-
Bulk Raw		1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.4	1.4
Bulk Treated		0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7
From connection charges		0.9	2.2	3.6	4.7	3.7	3.7	4.0	4.2	4.5	4.6	4.4
Support from SFC - Power		19.0	20.2	15.2	19.6	23.0	25.5	28.2	31.0	34.1	37.4	41.1
Support from ULB for deputed staff		3.8	4.3	4.9	5.6	6.5	7.4	8.4	9.6	11.0	12.6	14.4
Other Income (On O&M Reserve Fund)		0.3	1.0	1.9	2.6	3.1	3.6	4.2	4.7	5.1	5.4	5.7
Ad hoc grant from ULB to SPV	-	-	-	-	-	-	-	-	-	-	-	-
Total Income	**-**	**51.9**	**58.5**	**59.6**	**80.2**	**88.4**	**99.3**	**105.9**	**112.7**	**119.9**	**127.4**	**142.1**
Expenses												
Salaries (Part of Operator Fee)		6.3	6.8	7.2	15.5	16.6	17.7	18.9	20.3	21.6	23.1	24.7
Salaries - ULB Deputed Staff		3.8	4.3	4.9	5.6	6.5	7.4	8.4	9.6	11.0	12.6	14.4
Power charges		19.0	20.2	15.2	19.6	23.0	25.5	28.2	31.0	34.1	37.4	41.1
Chemicals (Part of Operator Fee from Year 5)					3.0	3.5	3.8	4.1	4.5	5.0	5.4	5.9
House Service Connections		-	-	-	-	2.4	2.4	2.5	2.6	2.6	2.7	2.7
O & M Costs (Part of Operator Fee from Year 5)					13.3	14.7	16.3	18.2	19.9	21.8	23.9	26.2
Other Expenditure (Part of Operator Fee from Year 5)					0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.4
Royalty		0.6	0.7	0.7	0.8	0.8	0.8	0.9	1.1	1.3	1.6	2.0
Operator Margin (Part of Operator Fee)		2.0	2.1	2.2	4.9	5.4	5.8	6.4	6.9	7.5	8.2	8.9
Technical Auditor Fee						1.8	1.9	2.1	2.3	2.5	2.7	3.0
SPV Establishment Costs		0.3	0.3	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.6
SPV Employees		0.3	0.3	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.6
Transfer to ULB Water fund account												
Total Expenses	**-**	**32.4**	**34.7**	**31.0**	**63.7**	**75.6**	**82.9**	**91.0**	**99.5**	**108.8**	**119.1**	**130.4**
Write-offs		6.1	6.8	7.5	4.6	4.5	4.6	4.1	3.7	3.2	2.6	2.2
EBITDA	**-**	**13.4**	**17.0**	**21.0**	**11.9**	**8.3**	**11.8**	**10.7**	**9.5**	**8.0**	**5.8**	**9.4**
Depreciation												
Interest on Working Capital	-	0.2	0.2	0.2	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.6
PBT	-	13.2	16.7	20.8	11.1	7.3	10.7	9.6	8.3	6.6	4.3	7.9
Income Tax	-	4.5	5.7	7.1	2.5	1.7	2.4	2.2	1.9	1.5	1.0	1.8
PAT	-	8.7	11.0	13.7	8.6	5.7	8.3	7.4	6.4	5.1	3.3	6.1
2. ULB Water Account Financials	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**	**Year 8**	**Year 9**	**Year 10**	**Year 11**	**Year 12**
Inflow												
Revenue												
SFC Grants												
SFC Salary grants		3.8	4.3	4.9	5.6	6.5	7.4	8.4	9.6	11.0	12.6	14.4
SFC electricity grants		19.0	20.2	15.2	19.6	23.0	25.5	28.2	31.0	34.1	37.4	41.1
Untied Grants (35% SFC)	11.3	12.6	14.2	15.9	17.8	19.9	22.3	24.9	27.9	31.3	35.1	39.3
Other Income	0.8	1.9	3.1	4.5	2.9	1.6	0.6	0.0	-0.3	-0.1	0.5	1.8
Total Inflow	**12.1**	**37.3**	**41.7**	**40.5**	**46.0**	**51.0**	**55.8**	**61.6**	**68.3**	**76.2**	**85.6**	**96.5**
Outflow												
Electricity Expenses transferred to SPV		19.0	20.2	15.2	19.6	23.0	25.5	28.2	31.0	34.1	37.4	41.1
Salary of erstwhile ULB employees in water supply		3.8	4.3	4.9	5.6	6.5	7.4	8.4	9.6	11.0	12.6	14.4
Interest on loan for project					21.2	18.4	15.5	12.7	9.9	7.1	4.2	1.4
Repayment of loan for project					21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7
Net surplus in water account	12.1	14.5	17.2	20.4	-22.2	-18.6	-14.4	-9.5	-4.0	2.3	9.6	17.9
Cummulative Balance in Water Account	**12.1**	**26.6**	**43.9**	**64.2**	**42.0**	**23.4**	**9.1**	**-0.5**	**-4.5**	**-2.1**	**7.5**	**25.4**

B. Economic Analysis

15. An economic analysis has been carried out to quantify and compare costs and benefits of the project. The set of project beneficiaries includes approximately 1,100,000 people (about 220,000 households) living in the project area.

16. **Costs.** On the costs side, total investments of US$138 million phased over the first four years and O&M costs over an assumed project life of 30 years are included in the analysis. The investment costs are based on the project design to provide 24/7 water connections to the estimated population in the project area.

17. **Benefits.** Project benefits considered include value of incremental and nonincremental project water supply, savings in production, and O&M costs due to reduction in NRW.

- *Value of nonincremental water*. Nonincremental water supply is valued at the average cost of consumption in the without project scenario, which in turn comprises tariffs paid and coping costs incurred in the current scenario. The coping costs[19] considered include both direct and indirect costs.

- *Direct coping costs*. Households, which now have piped water connections but only intermittent water supply, resort to expensive coping mechanisms that include construction of water tanks at the ground level and above the ground, installation of water pumps to ensure continuous supply of water, and purchase of water from other vendors. With implementation of 24/7 water supply, water will be available on a continuous basis, thus reducing the need to supplement water consumption through such coping mechanisms and thereby, leading to cost savings for these households.

- *Indirect coping costs (time)*. Households that now rely solely on public taps incur indirect coping costs in the form of time loss and, therefore, wage loss. As these households get private connections under the 24/7 water supply project, they will save time which was earlier spent on collecting water and have the option to engage in gainful economic activity.

- *Indirect coping costs (health).* A second contributor to indirect coping costs is sickness due to poor quality of water. Water quality is expected to improve with implementation of the 24/7 project, thereby leading to a reduction in the prevalence of waterborne diseases. This has already been seen in the Hubballi-Dharwad demonstration zone, where continuous water supply is associated with a 7 percent reduction in the prevalence of diarrhea and 22 percent reduction in the prevalence of blood or mucus in stool. Health-related coping costs are therefore expected to come down significantly with implementation of 24/7 supply.

- *Value of incremental water*. Incremental water accessed under 24/7 water supply due to increased convenience or demand is valued at average cost of consumption under the 24/7 project tariff scheme.

[19] Coping costs in the without-project scenario are sourced from a socioeconomic benefit assessment study conducted by the Public Affairs Foundation (Bangalore) in 2013. The agency was contracted by the Bank to assess the 24/7 water supply pilots of the KUWASIP.

- *Savings in production and O&M costs due to NRW reduction.* Investments under the 24/7 water supply project are expected to improve water supply infrastructure and lead to efficiency gains due to leakage reduction. These improvements will result in NRW reduction, which will in turn lead to savings in production and O&M costs. Such savings in costs due to increase in system efficiency are valued at O&M cost per kiloliter produced.

18. **Assumptions.** Key assumptions of the analysis are listed in the table:

Table 6.4. Key Assumptions

Average household size	5
Discount rate	8%
NRW before project	55%
NRW after project	15%
Total project beneficiaries	1,100,000
Life of investments	30 years

19. Results of the economic analysis are presented below:

Table 6.5. Economic Analysis

Measures of Project Worth	
Net present worth (US$, millions)	92.85
Internal Economic Rate of Return (%)	16.3
Benefit-cost Ratio	1.39

20. The analysis has, in general, attempted to be conservative in computing benefits and liberal in computing costs, such that the project's net benefit is likely to be higher if there are errors in calculation. Some of the benefits of the project, which have not been included in the analysis, are discussed briefly here.

21. **Other economic benefits.** In addition to the benefits considered in the analysis, the planned water supply intervention can be expected to increase property values, improve the quality of water supply service, and generate additional income and employment in the project areas. Employment and income generated as result of the project will have diverse impacts on the economy.

22. **Gender impact.** Households in the project area supplement their supply of water from sources like common bore wells, stand pipe/public taps, common wells, and tankers. A survey of the project area shows that in 90 percent of the cases, women in these households are responsible for collection of water. On average, they spend about 52 minutes per day to fetch water for their households. Therefore, a highly disproportionate burden of coping costs is currently borne by women. Therefore, 24/7 supply will have a significant impact on women, who will be able to spend more time and effort in productive employment opportunities. There are also instances where children (especially girls) bear the responsibility of fetching water for households. 24/7 water supply can therefore be expected to have a positive impact on educational outcomes as children gain more time for educational purposes.

23. **Poverty and shared growth impacts.** Lack of infrastructure disproportionately affects the poor and the lower-income groups. Access to clean water supply is no exception. In the absence of continuous 24/7 supply of pressurized water, the poor and low-income groups tend

to spend higher coping costs in the form of opportunity costs for collecting water and health costs for treatment of waterborne diseases. Adoption of increasing block volumetric tariff under the 24/7 project will allow such subsidies to reach the poor to a greater extent. Meanwhile, the 600 square feet built-up area criterion for identification of poor households, provision of an option to pay for water meters in installments, and incorporation of a subsidized price for initial consumption block in the tariff structure will greatly enhance coverage of poor households.

24. Based on the latest district-level poverty estimates,[20] it is estimated that approximately 16 percent of population in the Project area is poor and the Project will benefit the poor directly. This translates to USD 2.5 million worth of annual savings for approximately 34,000 poor households. The poor and low-income groups will also enjoy benefits like time saved for social activities, additional time for children to spend on education in lieu of time spent on collecting water, and several intangible benefits that cannot be quantified in monetary terms. Thus, the project is expected to generate significant impact on poverty and household incomes. The project is also expected to generate significant shared prosperity or growth impacts. It will be facilitating the basic human need for access to safe water, which will result in health benefits to households covered. Clean drinking water could also prevent the spread of waterborne diseases and can therefore be considered a public good whose benefits are shared by all sections of the society. Prevention of waterborne diseases can contribute to saving public finances that could be allocated to other investment needs. Control and avoidance of waterborne diseases could also increase productivity of labor, particularly among low-income labor classes. The project is therefore assessed to be a highly beneficial investment.

[20] Karnataka State Annual Plan 2014–15 (District-level estimates of poverty based on NSS 68th round (2011–12).

Annex 7: Implementation Plan for SLB Connect

India: Karnataka Urban Water Supply Modernization Project (P130544)

1. The *SLB Connect* initiative has been undertaken by the WSP in partnership with the Ministry of Urban Development, to provide an ICT-based model for collecting citizen feedback and integrating the same into the workflow of respective government agencies. The initiative currently covers citizen feedback on water supply and sewerage services. It is aligned with the SLB framework providing feedback against various customer service indicators. The SLB Connect program can help strengthen the focus on service delivery in the following ways:

- Provide a 'reality check' on service levels from the citizens' perspective.
- Provide city managers with more 'granular' data at the subcity level (ward/zone) which could facilitate improved monitoring and problem solving.
- Provide inputs into project planning processes.

2. Given the large share of urban population living in informal settlements in Indian cities and the inequities commonly prevalent in service provision, the system also provides for explicit tracking of the service experience in slum areas, including through public facilities (for example, public stand posts, community toilets).

SLB Connect under KUWSMP - Strengthening Social accountability

3. A comprehensive approach is being proposed for tracking citizen feedback on service levels under this project. The set of activities envisaged under this approach, along with proposed implementation arrangements are summarized in the table 7.1.

Table 7.1. Implementation Arrangements

	Activity	Frequency	Responsible Agency
1	Detailed household-level feedback survey conducted by enumerators using mobile to web system	Annual	City-level CSI Cell (through local NGO)
2	SMS and telephone-based pulse surveys conducted for specific service aspects (for example, incidence of supply disruptions or dirty water supply; receipt of bills; experience with bill payments; complaint resolution). These surveys will use the database of mobile numbers created in the detailed household survey.	Ongoing (for example, fortnightly, monthly, or on demand basis)	City-level CSI Cell (through firm hired by the state CSI Cell)
3	Self-reported feedback by citizens (C-to-G communication) through online, SMS, and helpline channels	Ongoing	Same as above
4	G-to-C communication through SMS for awareness creation, operational updates, and so on	Ongoing	Same as above

4. Scheduling of the annual household surveys will be as follows:

- Beginning of year 1 - conducted as part of baseline customer survey by private operator
- End of year 2, 3, 4 - conducted by city-level CSI cell

5. The citizen feedback data will be initially hosted on the SLB Connect platform being supported by the WSP. It will subsequently be handed over to a state-level agency such as the Karnataka Municipal Data Society or to the city under the CSI cell or e-Governance unit.

Roles and Responsibilities

6. The proposed social accountability activities will be coordinated and led by the city-level CSI cell. This will help strengthen the ULB's capacity to perform regulatory functions such as monitor private operator's performance more effectively and strengthen customer voice in service delivery. For this, the CSI cell will implement the following tasks:

- Provide for conduct of annual detailed feedback survey in contractual arrangements with city-level NGOs (including acquisition of suitable mobile phones for conduct of survey).
- Undergo training and thereafter coordinate training of local NGOs and their field staff on use of the SLB Connect system.
- Facilitate translation, refinement, testing of survey tools, and oversee conduct of the survey.
- Synthesize and disseminate findings of surveys through flyers, messaging of weblink, presentations to the ULB subcommittee, and other outreach channels.
- Liaise with technical agency ('firm') hired for conduct of SMS and telephone-based pulse surveys and Citizen-to-Government and Government-to-Citizen communications.
- Collate and synthesize self-reported citizen feedback to share with private operator, the ULB, and state-level CSIS.
- Track, document, and disseminate follow-up action taken on feedback findings.

7. While the city-level CSI cell will be the focal point for coordinating the social accountability activities, it will be supported by the state-level CSI cell in the following ways:

- Facilitate access to technical experts to guide the design and conduct feedback surveys.
- Coordinate hiring of firms to conduct SMS and telephone-based pulse surveys and ongoing citizen engagement activities for all three cities.
- Monitor citizen feedback findings and review follow-up action taken, for use in overall communication and stakeholder dialogue related to the project.