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Report No.: 121429-IN

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROGRAM APPRAISAL DOCUMENT

ON A

PROPOSED LOAN

IN THE AMOUNT OF US$120 MILLION

TO THE

REPUBLIC OF INDIA

FOR

UTTARAKHAND WATER SUPPLY PROGRAM FOR PERI-URBAN AREAS
(Program-for-Results)

December 1, 2017

Water Global Practice
South Asia Region

CURRENCY EQUIVALENTS
(Exchange Rate Effective October 31, 2017)
Currency Unit = Indian Rupee
INR 65= USD 1

FISCAL YEAR
April 1 – March 31

ABBREVIATIONS AND ACRONYMS

ACG	Anti- Corruption Guidelines
ADB	Asian Development Bank
AMRUT	Atal Mission for Rejuvenation and Urban Transformation
BCC	Behaviour Change Communication
CA	Chartered Accountant
CAA	Constitutional Amendment Act
CA&AG	Comptroller & Auditor General
CAS	Country Assistance Strategy
CB	Capacity Building
CPHEEO	Central Public Health and Environmental Engineering Organization
CPF	Country Partnership Framework
CPS	Country Partnership Strategy
CT	Census Towns
DBO	Design Build Operate
DDWS	Department of Drinking Water and Sanitation
DALY	Disability Adjusted Life-Year
DEA	Department of Economic Affairs
DIA	District Implementing Agency
DLI	Disbursement Linked Indicators
DPR	Detailed Project Report
EAP	Externally Aided Project
ERR	Economic Rate of Return
ESSA	Environment and Social Systems Assessment
FD	Finance Department
FIU	Field Implementation Unit
FIRR	Financial Internal Rate of Return
FRBM	Fiscal Responsibility and Budget Management
FY	Financial Year
GC	Growth Corridor
GDP	Gross Domestic Product
GHG	Green House Gas
GO	Government Order
GoI	Government of India
GoUK	Government of Uttarakhand
GP	Gram Panchayat
GRM	Grievance Redressal Mechanism
GRS	Grievance Redress Service
GSDP	Gross State Domestic Product
HH	Household
HO	Head Office
HR	Human Resource
HQ	Head Quarter
IBRD	International Bank for Reconstruction and Development

IDA	International Development Association
IEC	Information, Education, Communication
IFR	Interim Financial Report
IFSA	Integrated Fiduciary Systems Assessment
IHHL	Individual Household Latrine
IMIS	Integrated Management Information Systems
INR	Indian Rupee
IPF	Investment Program Financing
IVA	Independent Verification Agency
JnNURM	Jawaharlal Nehru National Urban Renewal Mission
KL	Kilo litre
KM	Kilometre
KRC	Knowledge Resource Center
Lpcd	litres per capita per day
M	Million
M&E	Monitoring and Evaluation
MFD	Maximizing Finance for Development
MIS	Management Information Systems
MLD	Million Litres per Day
MoU	Memorandum of Understanding
MoUD	Ministry of Urban Development
MTEF	Medium Term Expenditure Framework
MVS	Multi Village Scheme
NA	Not Applicable
NBA	Nirmal Bharat Abhiyan
NGO	Non-Governmental Organization
NH	National Highway
NIC	National Informatics Centre
NRDWP	National Rural Drinking Water Program
NRW	Non-Revenue Water
NSDP	Net State Domestic Product
O&M	Operations and Maintenance
ODF	Open Defecation Free
OHS	Occupational Health and Safety
PAC	Program Advisory Committee
PAP	Program Action Plan
PC	Partially Covered
PDO	Project Development Objectives
Opex	Operational Expenditure
OPRC	Operations Procurement Review Committee
PFM	Public Financial Management
PforR	Program for Results
PIU	Program Implementation Units
PMU	Project Management Unit
POM	Program Operations Manual
PPP	Public Private Partnership
PRIs	Panchayati Raj Institutions
PSU	Program Support Unit
PWD	Public Works Department
RTI	Right to Information
RWA	Resident Welfare Association
RWSS	Rural Water Supply and Sanitation
SA	Stand alone

SADA	Special Area Development Authority
SBD	Standard Bidding Document
SBM	Swachh Bharat Mission
SBM-G	Swachh Bharat Mission – Gramin
SBM-U	Swachh Bharat Mission – Urban
SC	Scheduled Castes
SCADA	Supervisory Control and Data Acquisition
SHG	Self Help Group
SLB	Service Level Benchmarks
SMS	Short Message Service
SORT	Systematic Operations Rating
SOP	Standard Operating Procedures
SPSU	State Program Support Unit
ST	Scheduled Tribes
STP	Sewerage Treatment Plan
SVS	Single Village Scheme
SWAp	Sector Wide Approach
SWSM	State Water and Sanitation Mission
TBD	To Be Decided
ToR	Terms of Reference
TRC	Training Resource Centre
TSI	Total System Improvement
UDA	Urban Development Authority
UDD	Urban Development Department
UJN	Uttarakhand Peyjal Nigam
UJS	Uttarakhand Jal Sansthan
ULB	Urban Local Bodies
URDPFI	Urban and Regional Development Plans Formulation and Implementation
URWSSP	Uttarakhand Rural Water Supply and Sanitation Project
USD	United States Dollar
UUSDIP	Uttarakhand Urban Sector Development Investment Program
UWSP	Uttarakhand Water Supply Program
VE	Vigilance Establishment
WB	World Bank
Wgt.	Weighted
WSS	Water Supply and Sanitation
WTP	Water Treatment Plant
YLD	Years Lost Due to Disability
YLL	Years Lost Due to Premature Mortality

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INDIA

Uttarakhand Water Supply Program for Peri-Urban Areas

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PAD DATA SHEET

INDIA

Uttarakhand Water Supply Program for Peri-Urban Areas (P158146)

PROGRAM APPRAISAL DOCUMENT

South Asia
Water Global Practice (9396)

Basic Information

Date:	Sect Water Supply, Management 100%
Country Director: Junaid Kamal Ahmad	Themes: Urban Development-50% Rural Services and Infrastructure-50%
Practice Manager: Meike Van Ginneken Global Practice Vice President: Laura Tuck	
Program ID: P158146	
Team Leader: Smita Misra	

Program Implementation Period: Start Date: December 20, 2017 End Date: December 31, 2023

Expected Financing Effectiveness Date: January 01, 2018
Expected Financing Closing Date: December 31, 2023

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Program Financing Data

[X] Loan	[Grant]	[Other]
[ ] Credit		

For Loans/Credits/Others (USD Million):

Total Program Cost:	150.00	Total Bank Financing:	120.00
Total Co-financing:	30.00	Financing Gap:	0.00

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Financing Source	**Amount**
GoUK	30.00
IBRD	120.00
Total	150.00

Borrower: Department of Economic Affairs, Ministry of Finance, Government of India

Contact: Mr. Shakil Alam	Title: Director
Telephone No.: 011- 23095057	Email: alam.shakil@nic.in

Responsible Agency: Department of Drinking Water and Sanitation, Government of Uttarakhand	
Contact: Mr. Arvind Singh Hyanki	Title: Secretary
Telephone No: 0135 2712212	Email: ahyanki@gmail.com

Expected Disbursements (in USD Million)									
Fiscal Year	2018	2019	2020	2021	2022	2023			
Annual	4	17	29	32	20	18			
Cumulative	4	21	50	82	102	120			

Program Development Objective(s)
The Program Development Objective is to increase access to improved water supply services in peri-urban areas in Uttarakhand

Compliance		
Policy		
Does the program depart from the CAS in content or in other significant respects?	Yes [ ]	No [*]
Does the program require any waivers of Bank policies applicable to Program-for-Results operations?	Yes [ ]	No [*]
Have these been approved by Bank management?	Yes [ ]	No [ ]
Is approval for any policy waiver sought from the Board?	Yes [ ]	No [*]
Overall Risk Rating: Substantial		
Legal Covenants		

Name	**Recurrent**	**Due Date**	**Frequency**
Advisory Committee	Yes	N/A	Throughout Implementation

Description of Covenant

The Program Implementing Entity shall maintain, throughout the period of implementation of the Program: an advisory committee with a mandate and composition agreed with the Bank. Without limitation on the foregoing, the afore-mentioned committee shall: (a) be chaired by a secretary-level official of the DDWS and comprise key state government officials from departments directly involved in the Program; and (b) be responsible for, *inter alia*: (i) converging the Program with various on-going programs in peri-urban areas; and (ii) ensuring that critical matters related to the Program implementation are addressed in a timely manner.

Name	Recurrent	Due Date	Frequency
State Program Support Unit	Yes	N/A	Throughout Implementation

Description of Covenant

The Program Implementing Entity shall maintain, throughout the period of implementation of the Program: a state Program support unit within DDWS, with functions, resources agreed with the Bank, and with staff in adequate numbers and qualifications, experience and terms of reference agreed with the Bank. Without limitation on the foregoing, the afore-mentioned unit shall be managed by a director and be responsible for, *inter alia*: (i) carrying out the overall Program planning, management and monitoring, with inputs from the Operators with respect to their respective activities; (ii) undertaking the verification process referred to in Section III.B of this Schedule; and (iii) coordinating all the training and capacity building activities under the Program.

Name	Recurrent	Due Date	Frequency
Program Implementation Unit	Yes	N/A	Throughout Implementation

Description of Covenant

The Program Implementing Entity shall cause each of the Operators to maintain, throughout the period of implementation of the Program, a Program implementation unit, with functions and staff in adequate numbers and qualifications, experience and terms of reference agreed with the Bank. Without limitation on the foregoing, the afore-mentioned unit shall be managed by a director and be responsible for, *inter alia*: (i) carrying out the planning, management and monitoring of its assigned activities (including the responsibilities described in its Performance Agreement) under the Program; and (ii) developing annual action plans and associated budgets for implementing such assigned activities.

Name	Recurrent	Due Date	Frequency
Program Actions Plan and Program Operations Manual	Yes	N/A	Throughout Implementation

Description of Covenant

The Implementing Entity shall: (a) (i) implement the Program Action Plan; and (ii) implement the Program in accordance with the Program Operations Manual, in each case in a manner satisfactory to the Bank; and (b) refrain from amending, revising, waiving, voiding, suspending or abrogating, any provision of the Program Action Plan and/or the Program Operations Manual, whether in whole or in part, without the prior written concurrence of the Bank.

Name	Recurrent	Due Date	Frequency
Performance Agreements	Yes	N/A	Throughout Implementation

Description of Covenant

The Program Implementing Entity shall maintain, throughout the period of implementation of the Program, one or more Performance Agreements under terms and conditions acceptable to the Bank, setting forth, *inter alia*: (a) the performance objectives and targets to be met by the Operator, during the Program, (b) the timeframes with which those performance objectives and targets are to be met; and (c) the standard and procedures for evaluating the Operator's performance.

Name	Recurrent	Due Date	Frequency
Verification Protocols	Yes	N/A	Throughout Implementation

Description of Covenant

The Program Implementing Entity shall: (a) undertake, at least annually, a verification process, in accordance with the terms of reference agreed with the Bank, to certify the fulfillment of the DLR(s) set out in Schedule 4 to the Loan Agreement; and (b) furnish to the Bank corresponding verification report(s), in form and substance agreed with the Bank.

Team Composition

Bank Staff

Name	Title	Specialization	Unit
Smita Misra	Team Leader (ADM Responsible)	Lead Water and Sanitation Specialist	GWA06
Josses Mugabi	Team Member	Sr Water and Sanitation Specialist	GWA01
Krishnamurthy Sankarnaryanan	Financial Management Specialist	Sr Financial Management Specialist	GG024
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Rajesh Balasubramanian	Team Member	Sr Water and Sanitation Specialist	GWA06
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Harjot Kaur	Safeguards Specialist	Sr. Social Developmental Specialist	GSU06
Sita Ramakrishna Addepalli	Safeguards Specialist	Sr. Environmental Development Specialist	GEN06
Jorge Luis Alva-Luperdi	Counsel	Senior Counsel	LEGES

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Sunita Singh	Team Member	Program Assistant	SACIN
Carmen Rosa-Yee Batista	Peer Reviewer	Sr. Water and Sanitation Specialist	GWA01
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Miguel Vargas- Ramirez	Peer Reviewer	Sr. Water and Sanitation Specialist	GWA03
Lilian Pena Pereira Weiss	Peer Reviewer	Sr. Water and Sanitation Specialist	GWA02

Non-Bank Staff

Name	**Title**	**City**
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Devika Bahadur	Consultant, Social Safeguards	New Delhi

I. STRATEGIC CONTEXT

A. Country Context

1. India is one of the fastest growing economies in the world. India's Gross Domestic Product (GDP) grew at an average rate of 8.3 percent per year between 2004 and 2011 amidst the global financial crisis and is estimated at 7.2 percent in 2016-2017. Its poverty rate, although declining, remains high at 21.9 percent, and India's need to foster inclusive and sustainable growth remains at the forefront. The Government of India (GoI) recognizes this and emphasizes the need for "faster, sustainable, and more inclusive growth".

2. India's rapid economic growth is accompanied by an unprecedented urban and spatial transformation. While the current level of urbanization in the country is around 32 percent (377 million people) as per the 2011 census, it is projected to increase to 50 percent or more over the next 20 years. There are huge development challenges to accommodate an additional 10 million urban dwellers per year and provide them with adequate urban services like water supply, sewerage, drainage, solid waste management and urban transportation to improve the livability of the country's cities. Massive investment needs are outlined by various finance commissions, expert bodies, and policies to facilitate the financing of urban infrastructure and services in a sustainable, equitable and accountable manner. The GoI emphasizes the need for major investments in infrastructure, including water supply and sanitation (WSS), as one of the pathways to increased growth and poverty reduction.

B. Sectoral and Institutional Context

3. *Government of India WSS Programs*: The GoI has made significant investments in the WSS sector across urban and rural areas and have shown continuous commitment through bringing in sector reforms, enhanced financial allocations, policy directions and actions to improve monitoring and reporting mechanisms in the sector. The GoI's National Rural Drinking Water Program (NRDWP) and Swachh Bharat Mission (SBM - Gramin) are the flagship programs focusing on water and sanitation in rural areas. For urban areas, SBM (Urban), SMART Cities, Atal Mission for Rejuvenation and Urban Transformation (AMRUT), and erstwhile Jawaharlal Nehru Urban Renewal Mission (JnNURM) are the major schemes providing support to the WSS sector. These programs / schemes also lay stress on institutional reforms and capacity building of key stakeholders besides providing support for infrastructure coverage.

4. *Rapidly expanding urban-rural interface*: India's urban population has grown 32 percent in the past decade. Although the proportion of urban population concentrated in larger cities continues to remain high, there is strong evidence of an increase in the number of urban growth nodes. Several rural areas now have urban characteristics and there is an increasing trend of absorbing predominantly rural areas into the limits of urban local bodies. These areas form the peri-urban interface, the critical region between the urban and rural areas in India. These transitional areas present unique governance, regulatory, infrastructure, service delivery, and environmental challenges for policy makers. The challenges get compounded due to fragmentation of institutional responsibilities, especially in peri-urban areas close to large and growing cities. Administrative uncertainty resulting from weak links and unclear municipal jurisdiction for infrastructure service delivery along with low priority assigned to these areas by rural departments further exacerbates service delivery issues. This has significant policy implications for the WSS sector. The Guidelines of the Ministry of Urban Development (MoUD), GoI, provide guidance for planning of peri-urban areas and encourage the provision of WSS services at par with urban standards.

5. *Types of emerging peri-urban areas*: Typically, three types of peri-urban areas can be identified based on their spatial and demographic characteristics: a) *areas in the urban fringes*–these are high density peri-urban areas formed as a result of rapid population growth of the urban zone, but with service levels as per surrounding rural areas; b) *areas within the urban territory* - these areas evolve as

a result of gradually increasing population density, forming a contiguous urban area, but often neglected and failing to receive the same service levels as the surrounding urban area; and c) *stand-alone areas* - these areas are formed as a result of transition of a rural area from rural characteristics to urban, due to population growth, connectivity with urban centres, and employment or business opportunities. Such areas form the peri-urban interface between the urban and rural areas. Depending on the type and nature of the peri-urban area, the GoI classifies these as *planning areas* if they are rural areas falling out of municipal limits and likely to be urbanized in the planning period. The 74th Constitutional Amendment Act (CAA) outlines *Nagar Panchayats* as areas in transition from rural to urban. The 2011 Census identifies *Census Towns* (CTs) growing in rural and urban periphery that lack urban infrastructure and services. The Planning Commission's Working Group on Urban Development for the 12th Plan period considers the growth of CTs as an indicator of the growth in peri-urban population. Thus, in the absence of any standard classification, the rapid increase in the number of CTs provides an indication of the magnitude and number of peri-urban interfaces at present in India.

6. *Census Towns as the peri-urban interface:* As per Census of India, the areas classified as CTs are those areas that satisfy the following criteria (a) minimum population of 5,000; (b) at least 75 percent of the male working population are engaged in non-agricultural pursuits; and (c) a density of at least 400 persons per square km. The CTs are typically rural agglomerations that grow as the population density increases and the employment base shifts from agriculture. They do not have an effective urban governance structure or requisite infrastructure in place that addresses the emerging challenges and aspirations. The CTs have grown by 185 percent, from a mere 1,362 in 2001 across the country to 3,894 in 2011, implying a significant number of rural settlements have attained urban characteristics, while administratively being under the control of rural institutions. These CTs may be in vicinity of a statutory town (within or off planning area) or standalone locations, such as Gram Panchayats(GPs). The CTs account for 14 percent of the total urban population in India (2011).

7. *WSS challenges in Uttarakhand:* Uttarakhand has a long way to go before its ambitious targets for universal WSS coverage are met. The state, with an existing population of 11 million[1] (2016), aims to achieve universal water supply coverage in urban areas by 2030,[2] in rural areas by 2022,[3] and (basic) sanitation coverage across the state by 2019[4]. At the state level, 68 percent of households have piped water supply. About 78 percent of urban households and 64 percent of rural households have piped water supply. Of the total rural population of 7.2 million, 45 percent, i.e., 3.2 million people receive less than 40 litres of water per capita per day (lpcd). The duration of water supply varies between three to four hours in pumping schemes and six to eight hours in gravity schemes. The non-revenue water (NRW) supply is estimated to be about 40-50 percent. The state was declared open defecation-free (ODF) in June 2017. Several state and local level institutions have been tasked with improving services across the state.

8. *Government of Uttarakhand's WSS Program:* The Government of Uttarakhand's (GoUK) WSS program comprises six components. As part of the *Urban Water Supply* component, the state envisages treated and pressurized piped water supply for all households by 2030, with at least 60 percent metered connections. The *Urban Sanitation* component has two sub-components: (a) enhancing the coverage of Individual Household Latrines (IHHLs) from 94 percent to 100 percent of households by 2019, a target which has recently been achieved, and (b) expansion of sewer network from 30 percent coverage of current urban population to 50 percent collection and treatment by 2030. While 64 percent of rural households have access to piped water supply, it is envisaged that universal coverage with 70 lpcd can be achieved by 2022 under the *Rural Water Supply* program. Similar to the urban areas, the state's *Rural Sanitation* program envisages enhancing the coverage of IHHLs from 86 percent to 100 percent in all rural households by 2019, which has recently been achieved. The *Peri-urban Water Supply* program specifically targets improvements from the existing 45 percent coverage and intermittent

[1] 66% rural population.
[2] GoUK Urban Vision, Official Website of Urban Development Directorate, GoUK; Sustainable Development Goal 6.
[3] As per NRDWP targets.
[4] As per Swachh Bharat Mission targets.

supply to the provision of universal water supply at par with urban standards. The *Peri-urban Sanitation* program aims at rapidly moving from the existing 90 percent IHHL coverage to achieving the SBM targets by 2019, which it has recently achieved. While the state has achieved the state-wide ODF status in June 2017, provision of improved water supply remains a priority for the state. The overall funding requirements for the state's WSS program are detailed in Annex 1.

9. *Growth of peri-urban areas in Uttarakhand:* The state of Uttarakhand, like many other parts of India, faces a similar trend of urbanization and growing peri-urban areas. From 2001 to 2011, the state's urban population grew by nearly 42 percent, which is substantially higher than the national average of 32 percent. During the same period, the state's rural population growth was 11 percent, relatively closer to the national average of 12 percent. Similarly, the number of CTs in Uttarakhand increased from 12 to 41 between 2001 and 2011. A large number of the CTs have emerged in select growth corridors and adjacent to a statutory town, mainly concentrated in the following four corridors - Dehradun-Rishikesh, Hardwar-Roorkee, Haldwani-Rudrapur, and Khatima. Most of the CTs in Uttarakhand can be characterized as areas in urban fringes and stand-alone areas. In the past five years, 10 of the 41 CTs have been designated as Urban Local Bodies (ULBs). As in other Indian states, the peri-urban areas in Uttarakhand have largely been neglected in the planning process and most residents are adopting "self-provisioning" coping mechanisms.

10. *Water Supply services in peri-urban areas in Uttarakhand*: The water supply services are extremely poor in these rapidly expanding peri-urban areas. About 45 percent of households are connected with piped supply but receive only one to two hours of water supply per day following rural standards of 40 lpcd. The aspirations of the residents in the proximity of growing cities demand urban service levels. Operational inefficiencies are high with NRW between 40-50 percent and flat tariff rates of about Rs 150 per household per month with no incentive to improve services or tariffs. With most households depending on own bore-wells or tanker supply, the coping costs for water supply are three to four times the monthly water bill, implying huge affordability and willingness to pay for improved services.

11. *Major water supply challenges in the peri-urban areas of Uttarakhand.* The major water supply challenges of the rapidly growing peri-urban areas are:

- *Absence of a formal water supply program for peri-urban areas:* There is no formal water supply program for the peri-urban areas, as these areas stretch five to ten kms outside the municipal limits, currently under the Gram Panchayat but having characteristics of Nagar Panchayat.
- *Demand for urban water supply services:* These areas are typically characterized by expanding housing colonies, institutions, and commercial activities in the vicinity of large towns, with growing demand for WSS services similar to the surrounding urban areas.
- *Non-committed funding:* While the state receives funding for urban areas (GoI programs including recent JnNURM, and now AMRUT) and Rural areas (NRDWP, SBM), there is no dedicated funding for the rapidly growing peri-urban areas.
- *Lack of Regional Planning:* There is currently no WSS master-plan or any other WSS planning tool which covers the peri-urban areas.
- *Other challenges:* Heavy influx of tourists and pilgrims in most of these areas who depend mostly on private bore wells and septic tanks.

12. *WSS Institutions in Uttarakhand*: The State has made significant strides in piloting and implementing governance models and decentralization program for the provision of WSS services. About 80 percent of rural schemes in the state are managed by GPs or their committees. The Department of Drinking Water and Sanitation (DDWS) of the, GoUK, which is the nodal department responsible for WSS programs across urban and rural areas, has demonstrated commitment to various sector reforms over the past decade. The State Water & Sanitation Mission (SWSM) is an apex institution for policy and programs for the Rural WSS (RWSS) sector. The main implementing agencies in the WSS sector (urban and rural), the Uttarakhand Peyjal Nigam (UJN) and the Uttarakhand Jal Sansthan (UJS),

have extensive experience in implementing reform oriented projects in the state. The UJN is primarily engaged in construction of drinking water schemes in rural and urban areas and sewerage schemes in urban areas, whereas UJS is primarily carrying out functions of operations and maintenance (O&M) of these schemes. The Swajal Unit implemented under the World Bank assisted Uttarakhand Rural Water Supply & Sanitation Project (URWSSP) is now leading the implementation of the GoI-funded SBM-Gramin and the NRDWP's Capacity Building component. The sector institutions, however, need to be strengthened to improve the sector and program performance, especially in a rapidly transitioning demographics scenario.

13. *Recent World Bank engagements in WSS sector*: The GoUK has implemented two World Bank-supported RWSS projects: (i) the Swajal Project (1996-2003) which piloted the demand responsive, community based schemes, and (ii) URWSSP (2006-15) which adopted a sector wide approach (SWAp) for decentralizing service delivery responsibilities to the Panchayati Raj Institutions (PRIs). These projects pioneered several WSS sector reforms, improved access to WSS services, increased emphasis on hygiene and safe sanitation practices, and expanded financial and technical capacities of institutions. The Asian Development Bank (ADB)-supported Uttarakhand Urban Sector Development Investment Programme (UUSDIP) is under implementation in select urban areas of the state. The UUSDIP aims to improve both the quantity and quality of water supply services to meet established standards. The GoI's Namami Gange Mission is also under implementation in the state.

14. *WSS vision and priorities for GoUK:* The GoUK's vision is to provide universal access to water supply and sanitation services across the state. It aims at integrated development of rural, peri-urban and urban areas, and to strengthen its sector institutions to cater to the enhanced service delivery standards in these areas. As part of this vision, the GoUK envisages the provision of water supply in the rapidly expanding peri-urban areas at par with the urban areas of the state. The GoUK has prepared its medium-term program (2018-24) based on an expected annual budget of about USD 49 million through GoI and state WSS programs, and a requirement of USD 80 million annually to make progress on achieving its long-term vision for the sector. Given this gap in funding, the areas which are largely unattended are the rapidly expanding peri-urban areas. Advances are also needed in sector program and policies for peri-urban areas, including private sector participation and professionalization of the sector institutions for addressing the emerging challenges for improved and equitable service delivery. The proposed PforR program would incentivize water supply service delivery improvements in these priority peri-urban areas and support GoUK to move on its path of longer-term vision of universal coverage.

C. Relationship to the CPS and Rationale for Use of Instrument

Relationship to the India Country Partnership Strategy

15. The Program is in line with the India World Bank Group's Country Partnership Strategy (CPS) for FY2013-17 (Report No. 76176-IN), discussed by the Executive Directors on April 11, 2013. The CPS recognizes that India's cities are growing rapidly in ways that are unplanned and haphazard, with cities sprawling beyond their municipal boundaries and many rural areas becoming denser and acquiring urban characteristics. The poorly planned and disconnected urban development could cost the Indian economy between USD330 billion and USD1.8 trillion by 2050, or at least six percent of GDP. The CPS focuses on a more resource-efficient growth path for India, in which the management of rapidly expanding cities is a direct contributor. The CPS also emphasizes the need for more rational use of water resources. The CPS recognizes that to transform India into a successful middle-class economy, the public sector must be strengthened, including improving government accountability, efficiency, and effectiveness along the chain from inputs to outcomes for ensuring the provision of basic public goods and services. The project is also aligned with findings of the Systematic Country Diagnostic (under preparation) regarding making cities productive and liveable.

16. Rapid urbanization, emergence of peri-urban settlements that have strong economic linkages with adjacent urban and rural areas and growing demand for services in these areas, have made it urgent

to address these critical development challenges. The strategic relevance of the program lies in addressing these challenges, including support to urban and rural development, ensuring benefits for all from faster growth, including the human development agenda. The Program covers both the transformation and inclusion aspects, providing services in currently under-served areas and addressing the needs of the growing peri-urban population.

17. The Program supports the strengthening of governance and institutional arrangements, improving capacities of sector institutions for service delivery orientation, enhancing citizen engagement, and institutionalizing and scaling up proven policies and strategies. The proposed improvement in schemes would result in more climate change resilient water supply infrastructure. The Program would also contribute to the broader goals of gender equality and empowerment. The Program would address gender issues by reducing drudgery of women in collecting and storing water, time saving resulting in income generation activities and improved personal and domestic hygiene. The citizen engagement activities would target women beneficiaries in planning and implementation phases of water supply schemes. The M&E program would capture benefits for women.

Rationale for use of Instrument

18. The Program for Results (PforR) instrument would support water service improvements in peri-urban areas. The use of the PforR instrument would add significant value to the implementation of the GoUK water supply program by: (i) ensuring a sharper focus on the most important results GoUK wants to achieve– i.e. increasing access to improved water supply services in peri-urban areas; (ii) providing financial incentives to improve the policy environment and planning processes for peri-urban areas; (iii) providing an entry point for GoUK to incentivize the state's sector institutions to deliver on service outcomes; and (iv) strengthening the state's Monitoring and Evaluation (M&E) systems and encouraging the practice of managing for results with a stronger focus on service improvement in peri-urban areas.

19. The proposed Program incorporates lessons learned from PforR operations in India and globally, including the importance of (a) properly defining the boundaries of the Bank-financed Program; (b) identifying a flexible and scalable set of Disbursement Link Indicators (DLIs) adapted to implementation progress; (c) including a combination of process and outcome DLIs that can produce initial disbursements as steps are taken and later incentives to move along the result chain; (d) defining the verification protocol prior to implementation to avoid delays in disbursement; and (e) taking into account government systems, including budgeting, expenditure, and fund flow from the central government to state to local levels.

II. PROGRAM DESCRIPTION

A. Government program – Uttarakhand Water Supply Program for Peri-urban Areas

20. The GoUK, through a Government Order (GO), has recently announced the Uttarakhand Water Supply Program for Peri-urban Areas (**UWSP or the 'Program'**) as a priority program[5]. The Program aims to increase access to improved water supply services in peri-urban areas in Uttarakhand. Water supply services in peri-urban areas have not been a focus of any GoI or GoUK project in Uttarakhand in the past. Rapid growth in and of these areas, strong economic linkages with large cities, and the resultant increase in demand for public services including water supply, indicate an urgent need to address the challenges in these areas. The scope of the Program covers the entire GoUK's water supply program for peri-urban areas. The Program cost of USD 150 million over six years constitutes 100 percent of GoUK's water supply program for peri-urban areas (details in Annex 1).

[5] GoUK has notified the peri-urban water supply program through Government Order (GO) issued on September 7, 2017.

21. The targeted peri-urban areas in the UWSP are defined as those which meet the criteria of (a) density as minimum 200 persons/sq.km; (b) within 10 km aerial distance from the existing limits of ULBs; and (c) not upgraded/merged into Statutory Town. The peri-urban areas include 31 CTs and 4 CT like areas that are rapidly expanding in the four Growth Clusters: Growth Cluster I: Dehradun-Rishikesh, Growth Cluster II: Haldwani-Kathgodam, Growth Cluster III: Hardwar-Roorkee, Growth Cluster IV: Khatima, and some stand-alone CTs.

22. The estimated population of these 35 CTs is nearly 770,000 people and number of households is close to 150,000, based on UJS and UJN survey in 2017. About 45 percent of households in these CTs have water connections. However, the services provided are limited. The GoUK's water supply program for peri-urban areas specifically targets improvements from the existing low coverage, poor services and intermittent supply as per rural standards, to the provision of universal water supply at par with urban standards. The GoUK would like to achieve universal metered household connections with good quality, pressurized, 135 lpcd supplied 24x7 in the rapidly expanding peri-urban areas. The investment requirement is USD 150 million for the medium-term program (2018-24). The main financing needs include construction of water supply assets, new or rehabilitation of networks, and augmentation of water source, treatment, storage, disinfection, and distribution through piped networks that are metered at the household level to achieve urban service levels. The UWSP prioritizes towns with lower service levels.

23. The UJN and UJS are the implementing agencies for UWSP. Each agency is responsible for design, implementation and management of schemes in specific geographic areas. Existing urban water supply policies and guidelines would be applicable for the peri-urban areas, as follows:

- *Customer Connection Policy*: The WSS Byelaws of 2011 comprehensively provide for various aspects of water supply services in Uttarakhand. The byelaws apply to the entire state and include procedures to be observed by the operator to provide a connection (domestic, commercial and industrial customers), disconnection, reconnection and the type of expenses to be covered by the fees. It also covers aspects of installation of customer water meters. Additional features of the policy, as per recent GO for the peri-urban program, are: (i) the cost of the pipelines along with water meter to connect the household would be paid from the project; (ii) internal plumbing arrangement at the customer end to obtain water connection would be at the cost of the consumer; (iii) there would be provision of separate connections for tenants; (iv) if the water connection is given to a society for maintenance of apartments it would be treated as separate domestic connections equivalent to total number of apartments in the society; and (v) there would be parity with urban water tariff.
- *Metering policy*: The WSS bye-laws 2008 covers the provision of meters, its size, location, sealing provisions, responsibility of repair of the meter, disconnection and consequences of failure to repair meters. These bye-laws would be applicable to all operators in peri-urban areas. The water meter cost would be borne from the peri-urban program funds. The water meter would be repaired or replaced by the operator without any upfront cost and the cost may be recovered in instalments through monthly bills over a period of time.
- *Tariffs:* The Water Tariff Policy of 2013, revised in 2015 and 2017, prescribes the tariffs applicable in urban areas based on different kind of schemes (high-head, low-head and gravity), and would be applicable for the peri-urban areas. The policy includes volumetric charges for metered domestic connections in urban areas. The peri-urban customers would be charged on the basis of volumetric tariff. Tariff structure shall be fixed and revised annually. Automatic increase of tariff annually would be indexed between 9 percent to 11 percent. The present applicable water rates for per kilolitre in urban areas are INR 6.40 for gravity type schemes, INR 8.80 for low head and INR 10.00 for high head (low head implies pumping head up to 100 metres and high head implies above 100 metres). The flat rates would be applicable in areas which are not metered. The urban tariff would be applicable from the date of commissioning of the improved water supply system. The urban tariffs appear reasonable to recover 100 percent O&M cost recovery.

- *Billing and collection*: The WSS bye-laws, 2008 provides for preparation and delivery of bills, the manner of calculations, payment of bills and the manner of payments etc. The UJS has a software that has various modules including one for billing and collection, which enables it to track and monitor the billing and collection and also is linked to its online portal for bill payments. The computerized billing and collection systems would be used in the peri-urban program by all the operators.
- *Operations and maintenance policy*: The O&M policies outlined by the GoI under various schemes/programs and the advisories of the GoUK are currently followed. The O&M cost includes cost of spare parts, pipes and fixtures for repair/replacement, cost of electricity and other fuel, cost of chemicals/ lubricants/consumables, cost of labour (salary and benefits of full time/part time staff for operation), payments to contractors engaged in providing support to operation, casual labourer for maintenance works, cost of vehicles for staff mobility, and cost of staff connectivity. The GoUK would like to maintain transparent accounting of income and expenditure of each peri-urban area. The O&M cost shall be realized on the basis of affordable tariff as per urban water supply standards through user charges and in certain cases government subsidies to operate and maintain high cost water supply schemes based on financially viable model. Prudent O&M policy would reduce losses, increase efficiency and reduce energy costs and would have climate change mitigation co-benefits.
- *Revenues and Subsidies:* The revenues for water supply are obtained through charges and tariffs, that include water connection charges from different types of users - domestic, non-domestic and industrial, fines from unauthorized connections/use and tariffs from customers. The GoUK pays electricity charges incurred by the implementing agencies and also provides maintenance grants for high cost schemes. The GoUK currently subsidizes water service operations and this is unlikely to change soon. The O&M cost shall be realized on the basis of affordable tariff as per urban water supply standards and in certain cases (especially in high head pumping schemes) government subsidies to operate and maintain water supply schemes.
- *Financial Management System:* The Fiscal and Public Financial Management (PFM) Frameworks at the subnational level are guided by the PFM framework as laid down by the Central Government specifically in areas related to budgets, financial reporting, and external audit. The initial funding is through the centre/state budget. The state creates a program budget head and provides the funds required, based on annual action plan submitted by DDWS. The funds are released to the DDWS and the sector institutions, once the budget is approved.

B. Program Development Objective (PDO) and Key Results

24. The development objective of the 'Program' is *to increase access to improved water supply services in peri-urban areas in Uttarakhand.*

25. ***Results Areas:*** The Program would focus on two results areas that contribute to the achievement of the PDO:

Result Area 1: Increased access to improved water supply services in peri-urban areas; and
Result Area 2: Improved policy, planning and M&E systems for water supply program in peri-urban areas.

26. ***Results Indicators:*** The following outcome indicators would be used to measure achievement of the PDO:

(i) a) Number of people receiving improved water supply services in peri-urban areas;
b) Number of people receiving improved water supply services in peri-urban areas - female;
(ii) a) Number of beneficiaries;
b) Number of beneficiaries - female;

(iii) Number of peri-urban areas with improved policy, planning and M&E systems implemented.

27. A set of intermediate results indicators would be used to measure and track intermediate steps towards achieving the PDO. Details, including indicator definitions and targets, are provided in Annex 2. Table 1 below provides a summary of the Program results framework. The results framework consists of two types of results indicators: those that are linked to disbursements, referred to as DLIs, and those that are not linked to disbursements, referred to as 'other results indicators.' The achievement of DLIs triggers Bank disbursements to the Program. The Program is expected to benefit about 0.5 million people, 50 percent of whom are female beneficiaries.

Table 1: Summary of Program Results Framework

Program Result Area	PDO Indicators	Intermediate Results Indicators	
		Disbursement-Linked Indicators	**Other Results Indicators**
Result Area 1: Increased access to improved water supply services in peri-urban areas	• Number of people receiving improved water supply services in peri-urban areas • Number of people receiving improved water supply services in peri-urban areas - female • Number of beneficiaries • Number of beneficiaries - female	• Number of water connections providing improved water supply services in peri-urban areas (DLI#1) • Sustainability of water supply service delivery in peri-urban areas (DLI#2)	• Customer satisfaction with improved water supply services • Number of hours per day per household saved due to water connections - female
Results Area 2: Improved policy, planning and M&E systems for water supply program in peri-urban areas	• Number of peri-urban areas with improved policy, planning and M&E systems implemented	• Improved policy for water supply program in peri-urban areas (DLI#3) • Strengthened M&E system for water supply program in peri-urban areas (DLI#4) • Number of approved master-plans for water supply in peri-urban areas (DLI#5).	• Annual report on water services performance in peri-urban areas • Number of training programs for women to enhance their capacity for involvement in water supply program activities

C. PforR Program Scope

28. The scope of the Program covers the following activities: (a) construction, rehabilitation, augmentation and/or expansion of water supply piped networks and metered services connections in peri-urban areas; (b) strengthening of policies on, and planning and monitoring of, water supply services in peri-urban areas, including: (i) development and implementation of a service-oriented water supply sector policy for peri-urban areas; (ii) strengthening of existing monitoring and evaluation systems on water service performance in peri-urban areas; and (iii) preparation and adoption of water supply master plans for peri-urban areas; and (c) provision of support to: (i) manage the Program; (ii) strengthen Program Implementing Entity's governance and accountability; (iii) carry out technical assessments and sector studies on water supply services in peri-urban services; and (iv) build capacity for delivering professional services. A detailed list of activities under the Program is provided below.

29. ***Activity 1: Performance based financing for improved water supply services in peri-urban areas*** The Program would support the improvement of water supply services in peri-urban areas. The targeted improvements include increased coverage as well as quality and reliability of services as per service level benchmarks provided by MoUD, GoI. Services would be provided through piped networks and metered service connections. Investment would focus on reducing losses and achieving energy efficiency to reduce operating costs and energy use.[6] The improvements in water supply services would be achieved through new schemes and rehabilitation, expansion and strengthening of existing infrastructure. Indicative activities to be supported under this result area include (details in Annex 1):

- Augmentation/improvements of water sources;
- Construction, rehabilitation, augmentation and extension of water treatment, storage and pumping, transmission and distribution, and associated network fixtures;
- Rehabilitation and metering of existing / new house connections;
- Improving the operation, management and efficiency of the water supply systems to provide improved water supply services; and
- Strengthening financial, technical, and institutional sustainability of the water supply systems.

30. The urban service standards and guidelines would be applicable for the water supply program in peri-urban areas, including the customer connection policy, metering policy, billing and collection policy, tariff policy, and the O&M policy. Tariffs and transparent targeted subsidies from GoUK (for electricity charges and maintenance of high cost schemes) would together recover 100 percent of O&M costs. The Program would introduce accountability for service delivery to achieve the Service Level Benchmarks of the MoUD. This would be achieved by requiring the implementing agencies to enter into a performance agreement with the GoUK / DDWS on specific performance indicators. The performance agreement would specify the obligations of the implementing agencies during the design, construction and operation stages of schemes.

31. The Program interventions would support improvements in efficiency and sustainability of water supply services through metering, volumetric tariffs, NRW reduction, and improving O&M cost recovery. Following are the key features for service delivery improvements[7]:

- A minimum 16-hour water supply meeting GoI water quality standards, supplied at a minimum pressure of 12m, for no less than 300 days in a year.
- 100 percent customer metering and volumetric tariffs.
- Sustainable water supply systems, which recover O&M costs through user charges with transparent GoUK subsidies, if any.
- NRW reduction for water distribution management along with water audits/leak detection programs to enhance efficiency and reduce operating costs (including energy use and climate change impact).
- Appropriate service delivery models, including Public Private Partnership (PPP) options, for accountable services.

32. This Activity would support program management, technical assessments and studies, and strengthening of governance and accountability mechanisms to deliver the Program results:

- *Program Management Support.* Dedicated units would be set up to effectively and efficiently manage the Program: (a) State Program Support Unit (SPSU) at SWSM, and (b) Program Implementation Unit (PIU) at the Headquarter level for each of the implementing agencies.
- *Technical Assessments and Studies.* This activity would support baseline surveys, studies on PPP models and transaction advisory services, training needs assessments, technical manuals, financial

[6]Measures described in paragraph 27 will contribute to greater efficiency, reduced operating costs and reductions in greenhouse gas emissions. Together, these measures are expected to reduce energy use and associated greenhouse gas emissions and will reduce climate change impact in a modest manner.

[7] Exceptions will be areas which are disaster affected.

management and procurement manuals, standard operating procedures, and studies for mid-term review and impact evaluation.

- *Strengthening Program Governance and Accountability Mechanisms.* This activity would support independent verification of results, technical and financial audits, and strengthening of grievance redressal mechanism (GRM) and citizen engagement programs.

33. ***Activity 2: Incentives for strengthening policy, planning and monitoring of water supply program for peri-urban areas*** The Program would support the GoUK's water supply program for peri-urban areas by incentivising development and implementation of a service-oriented and efficient water supply policy for peri-urban areas, strengthening the current M&E systems to capture timely and reliable information on water service performance in peri-urban areas, and dedicated incentives for preparation and adoption of water supply master-plans for peri-urban areas.

- *Development and implementation of a service-oriented water supply sector policy:* GoUK would prepare a service-oriented water supply policy for peri-urban areas, focusing on institutions, technical and financial programs, including gender mainstreaming and citizen engagement.

- *Strengthening the current M&E systems to capture timely and reliable information on Program activities and results:* The development of a robust and well-designed M&E system would improve sector monitoring and evaluation capabilities for peri-urban areas. It would include key sector performance indicators and verification mechanisms for measuring Program results.

- *Preparation and adoption of water supply masterplans for peri-urban areas:* Water supply master-plans would be prepared for at least three growth clusters of Dehradun-Rishikesh, Hardwar-Roorkee and Haldwani-Kathgodam. The master plans would be a strategic long-term planning tool to help meet future demand for water supply in targeted peri-urban areas. These would incorporate range of issues including population projections and system improvement based on needs, cost, effectiveness, etc. These would also address risks such as the risk of floods that are likely to increase in frequency and intensity due to climate change. These master-plans would help in strengthening of planning processes for peri-urban areas and the resilience of built infrastructure.

34. This Activity would support capacity building and training programs to deliver the Program results. These include programs for sector institutions for enhancing project management skills, preparation of detailed project reports (DPRs), financial and accounting processes, procurement processes, and customer orientation and citizen engagement.

35. ***Program Costs and Financing***. The estimated cost of the Program over the six-year period is USD 150 million (Table 2). The Program would be financed through GoUK financing of USD 30 million and IBRD support of USD 120 million. The Bank would provide USD 120 million (IBRD loan) to be disbursed upon achievement of a set of DLIs.

Table 2: Program Financing

Item	Amount (USD million)	% of Total
Program funding sources		
IBRD: Performance based financing to improve water supply services in peri-urban areas and incentives for strengthening policy, planning and monitoring of GoUK's water supply program for peri-urban areas	120	80
GoUK	30	20
TOTAL	**150**	**100**

Program Exclusions

36. The Program would exclude activities which are likely to have significant adverse impacts on the environment and / or affected people, including schemes that involve construction or rehabilitation of dams which are greater or equal to 10 meters in height, groundwater-based schemes in overexploited and critical basins that do not integrate source sustainability measures, undertaking any activity that uses asbestos, and undertaking any activity involving major land acquisition. It is envisaged that there is no high value contract exceeding Operations Procurement Review Committee (OPRC) threshold[8] value that would qualify for procurement exclusions.

D. Disbursement Linked Indicators and Verification Protocols

37. ***Disbursement-linked indicators***. The Program has five DLIs that build around key outcomes of the Program. The choice of DLIs was based on four factors: (i) signalling role of the indicator, that is, whether it signals a critical action/output along the results chain without which the PDO cannot be achieved; (ii) perceived need to introduce a strong financial incentive to deliver the action/output; (iii) practical aspects of verifying achievement; and (iv) GoUK's capacity to achieve the DLI during the implementation period of the Program. A description of each DLI is included in Annex 3. The five DLIs are as follows:

- DLI#1: *Number of water connections providing improved water supply services in peri-urban areas*. This DLI incentivizes both increase in coverage as well as continuity of improved services to customers. A water connection would count toward achievement of the DLI in any year if it provides improved water service to customers (a single or multiple households, commercial and institutional customers). The DLI is calculated using two sub-indicators: (a) number of new water connections that provide at least three months of improved water service, and (b) number of water connections counted in the previous year that continue to provide improved water service. Improved service is defined as: (a) a minimum of 16-hours per day of continuous water supply, (b) meeting GoI water quality standards, (c) supplied at an average pressure of 12m, and (d) provided for no less than 300 days in a year, unless the service area is declared a disaster-affected area. This DLI is linked to addressing improvements in water supply services for vulnerable population and will contribute towards adaptation co-benefits. This DLI will also improve water supply services to existing connections and will contribute towards climate mitigation co-benefits through NRW reduction, including energy savings through use of energy efficient systems by the sector institutions.

- DLI#2: *Sustainability of water supply service delivery in peri-urban areas*: This DLI incentivizes year-on-year increase in system sustainability in the peri-urban areas. The DLI uses a composite index called the Total System Improvement (TSI) score. The TSI is the total of scores for each system ranging between 0 and 3.7, equivalent to the sum of scores of four sub-indicators: performance agreement, metering, O&M cost recovery, and customer satisfaction. Disbursements would be proportional to the TSI score obtained for all systems. However, for any system to qualify for disbursements, the TSI score in any given year must be higher or equal to the TSI in the previous year. This DLI is expected to improve services to vulnerable population including energy savings through water supply system rehabilitation and NRW reduction.

[8] OPRC threshold value is as follows: (1) works (including turnkey, supply and installation of plant and equipment, PPPs), estimated to cost USD75,000,000 equivalent or more per contract; (2) goods, information technology and non-consulting services, estimated to cost USD50,000,000 equivalent or more per contract; (3) consultant services, estimated to cost USD20,000,000 equivalent or more per contract.

- DLI#3: *Improved policy for water supply program in peri-urban areas:* This DLI incentivizes the preparation of policy and implementation of policy actions for improving water supply services in peri-urban areas. Specific policy actions for achieving this DLI include consistent application of water connections policy and volumetric tariff policy. This DLI is expected to improve energy savings through state-wide policy on making water supply services more efficient and cost-effective.

- DLI#4*: Strengthened M&E system for water supply program in peri-urban areas:* This DLI incentivizes the strengthening of the M&E system for peri-urban areas, including design, implementation, information system, and annual reports. This DLI will contribute to reduction in energy consumption as the anticipated and the actual energy savings will be made more explicit through the strengthened M&E system.

- DLI#5: *Number of approved master plans for water supply in peri-urban areas*: This DLI incentivizes the preparation of strategic long-term master-plans for water supply for three growth corridors in Uttarakhand. Disbursements would be made against each approved master-plan up to the target value (3) by GoUK. This DLI is directly linked to adaptation co-benefits since climate resilience measures will be integrated in these master plans.

38. ***Verification Protocol***. DLIs#1 and 2 as well as parts of DLIs#3 and 4 would be independently verified by an external entity to be contracted by GoUK. DLI #5 as well as parts of DLIs#3 and 4 would be verified by the GoUK's Program Advisory Committee (PAC). GoUK's existing Management Information System (MIS) and regular sector-related reporting arrangements would be the basis for providing the data needed to verify most of the Program results. The verification protocol has been finalized and the ToR for IVA is available. The verification protocol uses data from customer surveys, progress reports from SWSM, desk-review of data, and reports from UJN and UJS. The table below provides the details of the timelines for the verification of the DLIs.

Table 3: DLI Verification Timelines

DLI	Program activities completed by	DLI verification conducted by an independent verification agency by	Approval of DDWS by	Approval of the Bank by
DLI #1 to 5	October each year	November each year	January each year	February each year

E. Capacity Building and Institutional Strengthening

39. The Program would address the capacity building and institutional strengthening needs identified in various assessments, including technical, fiduciary, environmental and social capacity gaps.

(a) *Technical Capacity*

- *Improving Professional Services*: The PforR operation would support the use of efficient and accountable service delivery models such as Design Build Operate (DBO) schemes for achieving service level benchmarks. The preparation of water supply policy and the master-plans for the rapidly expanding peri-urban areas would improve technical capacity of the sector institutions in addressing challenges of the peri-urban areas. Program activities would strengthen capacity for customer engagement, facilitating water connections, meter reading, billing, collection, consumer grievance redressal etc. The technical capabilities would also be strengthened to execute water supply schemes and achieve service delivery benchmarks such as continuous pressurized water supply with metering and NRW reduction.
- *Improving Service Delivery Orientation*: Performance agreements between the sector institutions and GoUK would support service delivery orientation and clarity in roles and

responsibilities, including obligations during the design, construction, and O&M stages of the water supply schemes.

- *Guidelines and Manuals for Implementing Agencies*: Technical Manuals that contains guidelines to plan, design, construct, operate and maintain water supply facilities for improved water supply services would be supported. Planning, designing and construction guidelines would include aspects related to long terms climate change, including increased intensity and frequency of floods that would impact the operation of the water supply facilities. In line with improved business practices, the Financial Management Manuals, Procurement Manuals, and Information Education Communication (IEC) Manuals would be prepared.

(b) *Environmental and Social Capacity*

- Capacity of SWSM / SPSU would be strengthened with experts to address environmental and social issues through screening mechanisms, including early warnings and mitigation measures. These experts will also strengthen participatory approaches and consultations for consensus building across the peri-urban communities and Gram Panchayats.
- *Gender, Inclusion and Equity.* The design of the Program would ensure that the beneficiary subgroups like women, scheduled castes (SCs), and poorer sections have equal opportunity to participate in the project and decision-making processes. The focus on enhanced water service delivery would benefit the vulnerable sections of the society and women who will have more time available for leisure, education, and livelihood activities.

(c) *Fiduciary Capacity*: Strengthening of fiduciary capacity would aim to bridge the gap in financial management and procurement operations (both number of professionals and qualification of professionals), as well as gaps in fiduciary systems, including procurement planning, monitoring, evaluations, contract management and procurement review and auditing. All designated procurement officers are required to get well oriented on use of e-procurement portal, use of common Standard Bidding Documents (SBDs) developed for the program, operation of procurement MIS, contract management etc. The SPSU would also ensure that procurement officers' knowledge and skills are updated on regular basis by sending them for trainings/workshops organized by external agencies. Financial management capacity of the sector institutions would be improved by implementation of accounting reforms in sector institutions and preparation of accounts on a timely basis for audit purposes.

(d) *Governance and Accountability*

- *Citizen engagement program* including citizen feedback mechanism, along with IEC/ Behaviour Change Communciation (BCC) activities, awareness building, public disclosure and dissemination of information is included in the Program. The program documents, reports, procurement processes would have public disclosure through the Program MIS.
- *An integrated GRM* would be established within the first six months of program implementation and would subsequently be reviewed for its effectiveness. Individual complaints and identification of recurrent issues pertaining to scheme design, implementation, and O&M would be assessed using the GRM. The GRM would have special provisions for the poor and vulnerable sections (scheduled castes, scheduled tribes, and women).
- Program would support *independent verification of results and technical and financial audits.* Activities include: (a) hiring of Independent Verification Agency (IVA) for verifying achievements under DLI #1, 2, 3 and 4; (b) hiring firm to carry out Technical Audits; and (c) hiring firm to carry out Financial Audits.

(e) *Monitoring and Evaluation:* A new strengthened M&E system for water supply services for peri-urban areas would be developed. The complete scheme cycle from planning, implementation, O&M, service delivery, grievance redress and citizen feedback would be captured.

(f) *Maximizing Finance for Development (MFD):* Program would strengthen the capacity of sector institutions to deliver improved services along with improving operational and financial

sustainability of the peri-urban systems. This would help in improving the credit-worthiness of the peri-urban water supply sector, and thus enhance the chances of leveraging private sector financing in the future.

III. PROGRAM IMPLEMENTATION

A. Institutional and Implementation Arrangements

40. The implementation arrangements for the proposed Program are embedded within the existing WSS structure in Uttarakhand. The key sector institutions - the UJN, UJS and the SWSM (all under DDWS) - would be responsible for implementing the Program. These institutions have successfully implemented earlier Bank supported rural WSS projects and the proposed implementation arrangement would help further enhance their skills. DDWS would continue to be the nodal agency responsible for implementing the urban and rural sector WSS programs across the state, and for the implementation of the Program. (Detailed roles and responsibilities are given in Annex 1)

41. A Program Advisory Committee chaired by a Secretary-level official of DDWS would be constituted to achieve better convergence with various ongoing programs in the target peri-urban areas and responsible institutions. The Advisory Committee would have members from UJS, UJN, SWSM, Irrigation Department, Urban Development Department (UDD) and the concerned urban development authorities or special area development authorities of the Program areas.

42. A SPSU would be established at the state level under the SWSM, to coordinate the project activities. It is envisaged that the SWSM will expand its policy guidance and advisory role from currently being only in rural WSS sector to urban and peri-urban WSS sector as well. The SPSU would undertake all Program-related activities at the state level including planning, management and monitoring the progress and implementation of the Program, and would coordinate training and capacity building and IEC activities for the Program. The SPSU would be responsible for independent verification of the results.

43. The UJN and UJS would be responsible for implementing the water supply related project activities through PIUs set up at the state level, which in turn would coordinate with Field Implementation Units (FIUs) set up at the divisional/district level of the implementing agencies. The PIUs would be responsible for the physical and financial monitoring of scheme components assigned to them. They would be responsible for developing technical and other guidelines for the FIUs for implementation. The FIUs would be the medium of implementation of the scheme components directly or through private contractors. They will develop annual action plans and budgets along with verifiable outcomes. They will be responsible for inputting field data in the MIS systems and for grievance redressal activities.

44. The two implementing agencies (UJS and UJN) would be responsible for designing, implementing, and managing the schemes in distinct geographical areas to avoid overlaps. This structure would bring in efficiency, accountability and promote competition amongst the implementing agencies. The outcomes and quality of the Program components would be ensured through performance agreements between GoUK and UJN /UJS.

B. Results Monitoring and Evaluation

45. An integrated sector information system would be set up as the implementation agencies have different MIS systems. Currently, UJN's MIS system records the data from schemes that the agency implements, mostly on the physical and financial progress of the schemes. The UJS has an internal MIS system for administrative purposes and the operational details related to schemes is not available. As part of the previous World Bank supported project, the Swajal Unit developed a comprehensive MIS covering information on all its schemes and activities under the SWAp Program. The sector institutions

also use the GoI's centrally managed Integrated Management Information Systems (IMIS) for monitoring the NRDWP programs. The data from the SBM(G) and SBM(urban) MIS are also available for state-level agencies. However, as the MIS of all the three sector agencies are not integrated, these do not comprehensively capture the service levels for the WSS sector. The Program would support the following, focusing specifically on the linkages with the peri-urban areas:

- *Enhanced Integrated Management Information System.* The proposed Program would establish systems and platforms which enable transparent measurement and monitoring and evaluation of information pertaining to the key result areas and indicators and would form the basis for disbursements.
- *Strengthened Monitoring and Evaluation.* The M&E system for GoUK's water supply program for peri-urban areas would be strengthened to capture and analyse, as part of an integrated sector information system, the following minimum set of indicators for peri-urban areas including the Service Level Benchmark (SLBs) requirements of MoUD:
  - *Coverage:* percentage of households/population receiving improved water services; and number of connections to the network.
  - *Quality of service*: hours of service; pressure at pre-determined points in the distribution network; percentage of water samples meeting GoI water quality standards; and level of customer satisfaction.
  - *Operational efficiency*: Billing efficiency; revenue collection efficiency; metering level; non-revenue water; and O&M cost recovery.
  - *Investment efficiency*: per capita investment cost; schedule and cost performance of water schemes implemented under the program; and
  - *Fiduciary performance*: budget variance, time efficiency of funds flow, timeliness of recording expenditures and account reconciliations, average length of procurement processes, number of bidders and bid responsiveness, and processing time for contractor payments.

46. The M&E system would comprehensively capture planning, implementation, and O&M phases of service delivery in the peri-urban areas, including grievance redressal and citizen feedback. This would improve the ability of the GoUK to monitor progress and performance on a dynamic basis, including urban and rural linkages for addressing service delivery issues of the peri-urban areas. The M&E system would be based on latest mobile solutions that would help the Program achieve its objectives, improve monitoring and supervision, deepen citizen engagement, and provide tools for better analytics and decision making. The existing RWSS SWAp M&E System would be continued under the Program and integrated with the proposed M&E system.

C. Disbursement Arrangements

Financing Allocation for DLIs

47. Allocations to each DLI have been agreed with GoUK based on the relative importance of each DLI in achieving overall Program objectives and the need to align the scale of financial incentive with the effort required to achieve the DLI (Table 4). Of the total PforR amount of USD120 million, 73 percent is allocated to DLIs on increasing access to improved and sustainable water supply services in peri-urban areas (DLI #1 and 2) and 27 percent is allocated to DLIs on improving policy, planning and M&E systems (DLI# 3, 4 and 5). The disbursements under DLI# 1, 2 and 5 are fully scalable, and the disbursements would be proportional to the progress towards achieving the targeted DLI value. Disbursements under DLI #3 and 4 are not scalable as the indicators relate to a set of actions that are either achieved or not. Where actions are not achieved in any year, the allocated amount would be carried over to the subsequent year until the corresponding results are achieved. Financing allocation includes front-end fee for the Loan.

Table 4: DLI Financing Allocation

DLI	PforR Financing Allocated to DLI (USD millions)	PforR Financing (%)
DLI#1: Number of water connections providing improved water supply services in peri-urban areas	**48**	**40**
DLI#2: Sustainability of water supply service delivery in peri-urban areas	**39**	**33**
DLI#3: Improved policy for water supply program in peri-urban areas	**10**	**8**
DLI#4: Strengthened M&E system for water supply program in peri-urban areas	**13**	**11**
DLI#5: Number of approved master-plans for water supply in peri-urban areas	**9.7**	**8**
Front-end fee	**0.3**	**0.3**
Total [9]	**120**	**100**

Fund Flow and Accounting

48. The state would provide the budget every year based on action plan of the DDWS and expected DLI amount for the year. The state would budget both state share and World Bank share under the budget head of the Externally Aided Projects (EAPs). The funds would be released to the DDWS and the sector institutions after the budget is approved. The funds are expected to be spent by the sector institutions SWSM, UJN, and UJS. The funds would be transferred to the institution's bank accounts from where the Program expenditure would be met.

49. The accounting at the state level would be done under the Expenditure Head of EAPs in the state budget as per state PFM. The first tranche of budget and fund flow would be transferred without conditions by the Finance Department (FD). However, for subsequent tranches the DDWS would be required to submit utilization certificates of expenditure to the FD. The threshold for utilisation certificate is kept at 60 percent of the earlier releases as per the state General Financial Rules. The SWSM would be responsible for collating expenditures and maintaining details of the actual expenditure under the Program.

50. When DLI is achieved, the corresponding DLI amount would be disbursed by the Bank to the state after verification of results. The transfer of these amounts would be through the budget. The amount of DLI disbursed by the Bank in the case of DLI# 1 and 2 would be transferred to the sector institutions, on a back-to-back basis to ensure adequate liquidity. Funds for DLI#3, 4, and 5 would be retained by GoUK at SWSM level since DDWS is responsible for these DLIs. Amounts under these DLIs can be used for funding Program expenditure, including sector studies, developing and maintaining schemes, capacity building and other activities aligned with the Program.

51. Matching of program expenditure (actuals) by sector institutions with the DLI amount released to them would be carried out by the SWSM in the last year of the Program for any adjustments, as per FM guidelines. The performance agreements between GoUK and UJN, UJS would be the instrument for GoUK to transfer the performance risk to the UJN and UJS. However, if UJS and UJN fail to deliver, then GoUK takes the financial risk. GoUK can specify in the performance agreement that failure to deliver on these indicators would have implications on future financial flows / subsidies to both UJN and UJS. Any advance from the Bank could be adjusted or rolled over till the end of the Program for final adjustment. The disbursements under the DLIs would be compared with Program

[9] Totals are rounded-off.

expenditures in the last year of the Program and a refund would be sought if DLIs paid are more than the Program expenditures. Any other sources of financing must be deducted from the calculations.

Co-financing

52. The state would provide its share of USD 30 million as upfront amount in the first two years through budget transfer to the sector institutions to kick start the activities and ensure that sector institutions have adequate liquidity. In case IBRD advances are given, in agreement with DEA, those funds would also be provided to the sector institutions for carrying out activities. As DLIs are achieved the state would claim disbursements from the Bank.

Advances

53. The Bank would provide an advance of up to 25 percent of the loan amount. Any advance from the Bank could be adjusted or rolled over till the end of the Program for final adjustment.

IV. ASSESSMENT SUMMARY

A. Technical

54. *Strategic Relevance:* The core focus area of the proposed Program - to improve the water supply services in peri-urban areas of Uttarakhand - is strategically relevant to and aligned with GoI and GoUK's vision of providing universal access to water supply and sanitation services. Rapid urbanization, emergence of peri-urban settlements that have strong economic linkages with adjacent urban and rural areas and growing demand for services in these areas, have made it urgent to address these critical development challenges. While there have been targeted interventions to improve WSS services in urban and rural areas, peri-urban has not been the focus of past projects and has continued to remain neglected. The strategic relevance of the program lies in addressing these challenges. The proposed Program is also consistent with the Country Partnership Strategy (CPS) 2013-2017, which has three themes: (i) Integration – connecting across transport, energy, skills and private investment; (ii) Transformation – balancing urban-rural development, guiding urban expansion while retaining strong support to agricultural and rural development; and (iii) Inclusion – ensuring benefits for all from faster growth, including the human development agenda. The Program fits well under the transformation and inclusion pillars, providing services in currently under-served areas and addressing the needs of the growing peri-urban population.

55. *Technical Soundness:* The proposed Program would address the emerging water supply challenges in the rapidly expanding peri-urban areas in the state. The typology of activities under the Program includes both infrastructure investments and system strengthening activities aimed at addressing critical sector challenges. The success of previous World Bank Projects has instilled a reform mind-set in the state and has built institutional capacities required to undertake the Program. Building on this, the proposed Program would focus on improving water supply services in targeted peri-urban areas, strengthening the planning process for targeted peri-urban areas for improved water supply services, build capacities of institutions, and develop monitoring and evaluation systems to sustain interventions. The proposed Program would be outcome-oriented, marking a strategic shift from the previously used input-based approach. The Program is technically sound as it aims to achieve GoUK and GoI mandates and focuses on improving efficiency and sustainability of services, sectoral policy development, improved M&E systems, and capacity development. The Program is designed to demonstrate solutions to these sector challenges through appropriate interventions, strategies and investment programs and incentivizes. It incentivizes sector institutions to achieve sustainable water supply services

56. *Institutional Arrangements and Governance Structures:* The two main sectoral institutions, UJN and UJS, would implement the Program. These agencies have extensive experience in implementing reform-oriented projects in the state. The implementing agencies would be responsible for undertaking the water supply related components under the PforR instrument. The SWSM/SPSU would be responsible for implementing the soft components of the Program. A SPSU would be established at the state level to coordinate all project activities. The implementing agencies would set up PIUs at the headquarter level and would establish FIUs at the field level. The SPSU would coordinate with the PIUs, and the PIUs would oversee respective FIUs. However, these institutions need to be strengthened to improve sector and Program performance, especially in the peri-urban areas. The capacities of sector institutions would be enhanced for project management skills, preparation of DPRs, financial and accounting processes, procurement processes, and customer orientation and citizen engagement.

57. *Expenditure Framework*: Uttarakhand has a medium-term program of USD 477 million to improve coverage for water supply and sanitation across the state, with an annual requirement of USD 80 million and average annual availability of USD 49 million (details in Annex 1). GoUK has sufficient fiscal space to meet the needs of its WSS sector over the medium term. The sector receives about 35 percent of the annual plan outlay of the state and this is supplemented by funding from GoI and externally aided projects, adding up to about USD 49 million per annum on average. The proposed Program cost of USD150 million over six years constitutes 100 percent of GoUK's water supply program for peri-urban areas and about 31 percent of GoUK's WSS sector program for the six-year period and is expected to have a significant impact on improving the performance of the sector as a whole.

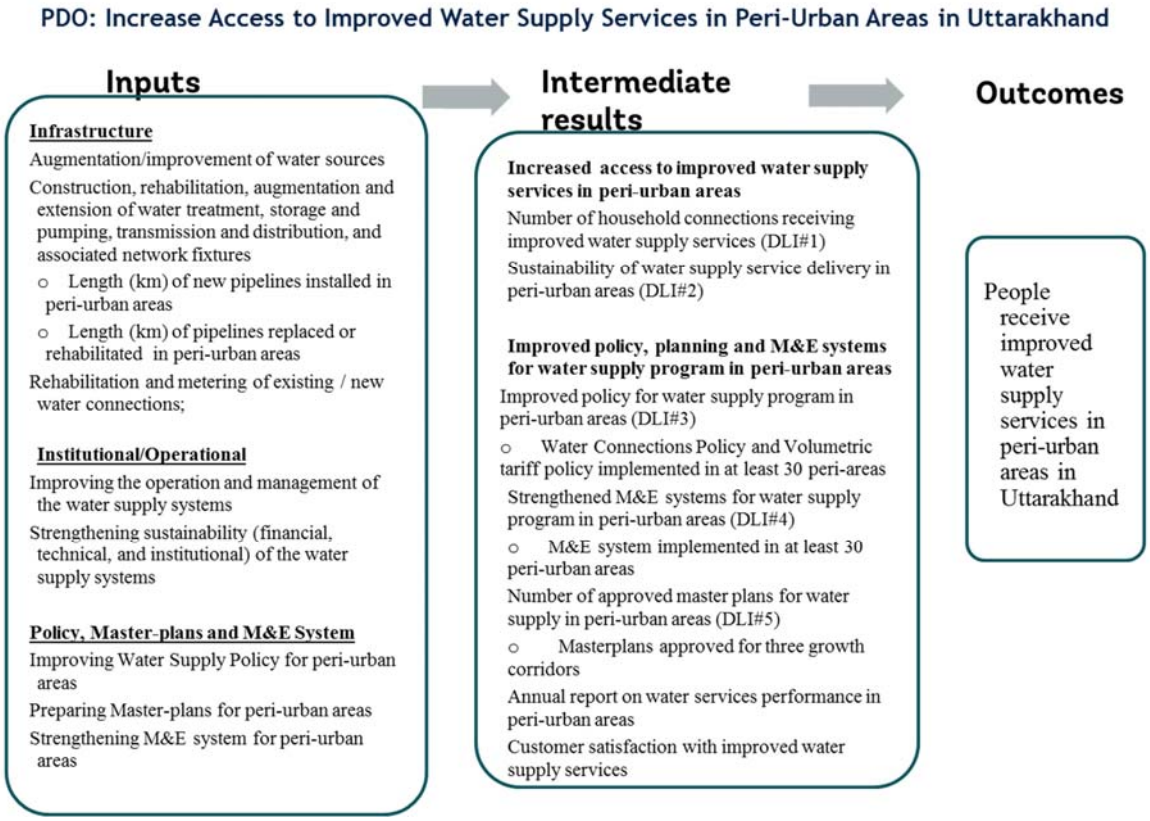
58. *Results Framework and Monitoring and Evaluation Capacity:* While the results framework of GoUK's WSS program is comprehensive, different entities have different MIS systems and an integrated sector information for both rural and urban is not available. To enhance the result-oriented approach in the sector, a new strengthened M&E system would be developed under the Program, including urban-rural linkages for the peri-urban areas. The main function of the M&E system would be to collect data on the Results Areas, DLIs, and Intermediate Results Indicators (Annex 2). The monitoring system would also record data on contract management, institutional performance, operations and management, and grievance redressal system.

59. *Clear roles and responsibilities* would be assigned for populating and maintaining data in the system. The PSU and the PIUs would be responsible for feeding data into the monitoring system. FIUs would be responsible for collecting the baselines and the scheme-based data. M&E capacity of all implementing agencies would be enhanced through relevant trainings. Further details on the technical assessment are provided in Annex 4.

60. *Capacity Building and Training Programs* would address the identified capacity gaps by strengthening the sector institutions through program management support, strengthening of governance and accountability mechanisms, technical assessments and studies, and capacity building and training programs. These programs would help to address existing capacity gaps and risks that may otherwise undermine the achievement of program results.

61. *Results Chain Analysis:* The following results chain analysis was carried out to arrive at the PDO and intermediate result indicators for the project.

Figure 1: Results Chain Analysis



62. *Financial Analysis of the Program*: The UJS currently recovers 53 percent of its operating expenditure through its own revenues (FY 2015-16). The GoUK grants account for 50 percent of operating expenditure, thus yielding a small operating surplus. The GoUK subsidy is earmarked for electricity expenses, repairs and maintenance. However, after providing for depreciation, UJS reports a net loss. Program towns are charged a fixed monthly tariff of Rs 158 per connection per month in the year 2016-17. An annual escalation of 9 percent to 11 percent for fixed monthly tariff is provided for in the tariff structure which has been implemented since 2013-14. The current tariff schedule includes a provision for volumetric tariff (with a provision for escalation of 15 percent per annum), but this is not applied due to lack of metering. For a select 26 peri-urban areas in the Program, for which area-wise revenue and cost information was available, O&M cost recovery through own revenues is 86 percent (FY2016-17) compared to 53 percent for UJS as a whole. This is due to the practice of fixed monthly charges and low water availability in these towns at present. However, this practice provides no incentive to UJS to increase water availability, either by additional supply or through reduction in NRW.

63. The proposed Program can improve the cost recovery situation if metering and volumetric tariff are introduced with improved service levels, along with coverage and collection efficiency improvements. O&M cost recovery of 86 percent in 2016-17 with poor service levels can increase to 115 percent in the year 2023-24 based on volumetric tariff with improved service levels. However, if the tariff increases were moderate at 8 percent per annum and costs increase by 25 percent, while consumption falls to 100 litres per capita per day, the cost recovery in the year 2023-24 would fall below current levels to 81 percent based on volumetric tariff. The analysis considers electricity subsidy provided by the GoUK as per stated policy. The financial internal rate of return calculated for the entire Program till the period 2047-48 is 1.1 percent.

64. *Economic Justification of the Program:* The Program has a strong economic rationale, with significant benefits on health and productivity. The Program would benefit people in peri-urban areas through improved water supply services. Safe drinking water helps protect individual and community health and provides convenience and dignity, significantly reducing adverse impacts of poor access that are disproportionately borne by girls and women. Benefits of improved access to water supply services also accrue through time and effort saved and value of incremental water through improved water supply systems. Equitable water supply coverage across peri-urban areas in the state would help realize significant public health gains. The quality of services planned under the Program also address the inefficiency of past investments in peri-urban areas which met only rural standards of service.

65. A cost-benefit analysis of the proposed Program provides an economic rate of return of 14.5 percent and a benefits-cost ratio at 2.5. A discount rate of 10 percent has been used. The analysis is based on a representative household survey covering 2000 households in the targeted peri-urban areas. Based on the survey data and secondary sources of information, the following benefits have been quantified: (i) time saved in water collection, (ii) benefits from incremental water supply, and (iii) health benefits from reduction in diarrhoea, including value of reduction in person days lost and expenditure incurred for treatment of diarrhoea, and value of disability adjusted life-year (DALY). The benefits have been arrived for the period 2018-2048 for 0.5 million population as direct beneficiaries of the Program. Details on the economic analysis are included in Annex 4.

B. Fiduciary

66. The Program's fiduciary system provides reasonable assurance that the financing proceeds would be used for the intended purposes with due attention to the principles of economy, efficiency, effectiveness, transparency and accountability, taking into consideration the system strengthening actions. The overall fiduciary performance rating for the most recently closed project was in the range of MS or S in the last three to four years of implementation, and all three agencies adhered to the fiduciary requirements of the Bank.

67. The Integrated Fiduciary Systems Assessment (IFSA) was carried out to assess whether the fiduciary system and performance are adequate to provide reasonable assurance that the funds would be used for the intended purposed. The IFSA covered fiduciary arrangements in all key entities that would be involved in the Program (SWSM, UJN, and UJS). Further, these agencies have also implemented earlier Bank funded project and therefore, the combined fiduciary risk has rated as "**Substantial**". The key issues highlighted by IFSA and mitigation measures are outlined below.

68. *Procurement System*: The state has fairly well-established procurement systems, which is guided by the Procurement Rules 2008 (updated 2017), Public Works Department (PWD) Manual and Store Purchase Manual. The state procurement procedures are similar with the Bank's procurement procedures. All identified PIUs have worked with the Bank funded project earlier and are familiar with Bank's procurement procedures. The procurement for the program would be decentralized and would be conducted by respective PIUs using state government's e-procurement portal http://uktenders.gov.in. Based on the assessment of the existing procurement systems, key issues in procurement are: (i) non-availability of SBD for goods, works and services; (ii) lack of dedicated procurement staff in PIUs and segregation of duties; (iii) possible barriers for contractors imposed by mandatory registration of contractors by respective PIUs; (iv) lack of procurement complaint handling mechanism; (v) lack of procurement MIS including for contract management; and (vi) lack of standards for disclosure for awarded contracts.

69. *Financial Management Systems:* The Fiscal and PFM Frameworks emanate from the Indian Constitution and are guided by central policies and processes. The PFM framework at the subnational level is guided by the PFM framework as laid down by the Central Government specifically in areas related to budgets, financial reporting, and external audit. The initial funding is done by the state while the DLI amounts are disbursed to the state based on achievement of results agreed under the PforR. Generally, there is no linkage between when the expenditure is incurred and when the DLI amounts are

disbursed by the Bank. Hence, in PforR, the requirement is to match the program expenditure at the end of the program with the DLI amount rather than on an ongoing basis. The disbursements under the DLIs would be compared to Program expenditures in the last year of the Program and a refund would be sought if DLI disbursements are more than the Program expenditures. Any other sources of financing must be deducted from the calculations. Three broad principles are followed in such programs:

- PforR program has to be carried out within the confines of the existing PFM framework as country systems are followed under PforR**;**
- Disbursements are based on achievement of key results (DLIs) irrespective of the expenditure incurred for achieving the results; and
- The amount of financing is equal to or less than the total Program expenditures.

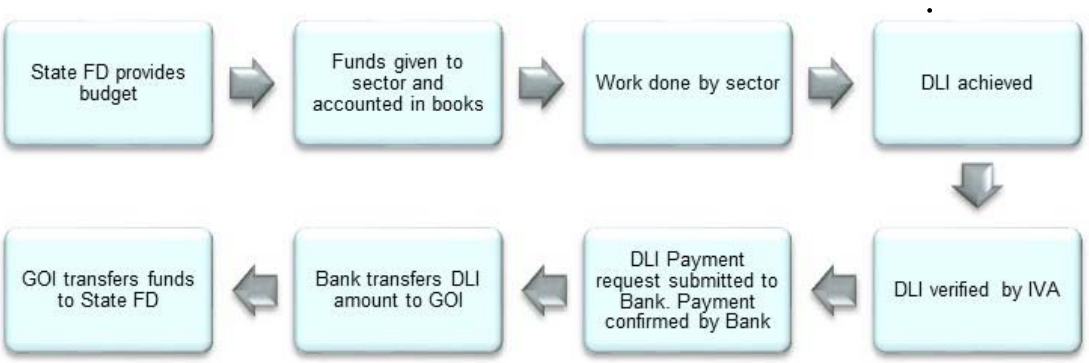
70. The GoUK and the implementing agencies have budget and expenditure management systems and practices in place. The budget is allocated to the implementing agencies under the state plan, district plan, and central government schemes. All the implementing agencies have bank accounts. The funds are transferred from the government budget to the bank accounts for existing programs. SWSM follows accrual-based accounting and its accounts are fully computerized. UJN and UJS follow both manual and computerized accounting for schemes. Scheme-wise manual records are also maintained. Internal controls are followed in various forms and external audits are conducted for SWSM and all implementing agencies. State financial management systems and the existing systems followed by the implementing agencies would be used for the program financial management. Several issues affect financial management: (a) ad hoc planning and budgeting without prioritization of schemes; (b) delay in release of funds; (c) lack of FM staff capacity in UJN and UJS; and (d) accounts maintained manually and delay in finalization of entity audits.

71. The state would provide the budget every year based on action plan of the DDWS and expected DLI amount for the year. The state would budget both state share and World Bank share under the EAP budget head. The funds would be released to the DWSS and the sector institutions, once the budget is approved. The accounting at state level would be done under the Expenditure Head - EAP head in the state budget. The funds would be transferred to the institution's bank accounts from where all the expenditure would be met. The actual expenditure details would be available with the SWSM as they would collate the program expenditure. A consolidated program audit would be carried out by a Chartered Accountant (CA) firm, and audit report would be submitted by SWSM within nine months of the end of the Financial Year. The existing FM systems has the capacity to produce the program financial statements on a timely basis.

72. When DLI is achieved, the corresponding DLI amount would be disbursed to the state by the Bank after verification. The FD would transfer the DLIs to the sector institutions and departments on back- to- back basis. The transfer of these amounts would be through the budget. The amount of DLI disbursed by the Bank in the case of DLI #1 and 2 would be transferred to the sector institutions on a back-to-back basis in the year of receipt to ensure adequate liquidity. Matching of program expenditure (actual expenditure) by sector institutions with the DLI amount released to them would be done by the state in the last year in the program, and any adjustments would be suitably carried out. This would also be in line with FM guidelines where the expenditure has to be matched with the DLIs at the end of the program.

73. Also, it is pertinent to note that for the first tranche the amounts could be transferred without conditions by the FD. However, for subsequent tranches the DWSS would be required to submit utilization certificates of expenditure to the FD. The threshold for utilisation certificate is kept at 60 percent of the earlier releases as per the state General Financial Rules. The above requirements would also be suitably incorporated in the GO for the program. The diagram below shows the fund flow for UWSP.

Figure 2: Fund Flow for the Program



74. *Governance and Accountability Systems:* The key gaps include: (a) no vigilance systems operating below the state level (i.e. within line agencies), (b) lack of a complaints-handling system in the context of procurement and financial management, (c) lack of verification, oversight systems, and (d) non-inclusion of fraud and corruption clauses in standard bidding documents. In order to address these gaps, the program includes support for strengthening the M&E system, including conducting independent verification of results, technical, procurement and financial audits, strengthening of GRM and citizen engagement programs, and the design and implementation of performance contracts/agreements between state and sector institutions. In addition, the Vigilance Establishment (VE) of the state serves as a special police force and functions through two sector offices. The key function of the VE is to enquire into complaints alleging acts of corruption and misuse of public office by State government employees. From 2001-2015, the VE has recorded 162 complaints, with 16 resulting in "convictions". The VE is also responsible for keeping the Government informed of any issues of corruption, misbehaviour, or any malpractice. It also has investigation functions and gathers intelligence as needed on cases of corruption. The complaints can be lodged via the website, email, phone, Facebook, WhatsApp, or through a personal visit. The VE also maintains a manual register of all complaints.

75. *Applicability of Anti-Corruption Guidelines of the Bank for the Programs.* The GoUK is committed to ensuring that the Program's results are not impacted by fraud and corruption. Through the Program's legal documents, the GoI and GoUK are committed to the obligations under the Anti-Corruption Guidelines (ACG) for PforR operations which includes World Bank's 'Guidelines on Preventing and Combating Fraud and Corruption in Program-for-Results Financing' dated February 1, 2012, and revised on July 10, 2015, which covers the borrower's obligations under the ACGs. In the context of the Program, the Government will inform the Bank of any indication of fraud and corruption, and will cooperate with the Bank in any investigation into indications of fraud and corruption. The Government will also ensure that any person or entity debarred or suspended by the Bank is not awarded a contract or allowed to participate in the Program during the period of the debarment. The list of debarred firms is available at www.worldbank.org/debarr. GoUK commits to sharing complaints information with the Bank, which may be derived from a variety of sources, including the complaints handling system.

76. *Mitigation Measures:* The following issues would be addressed through the GO: (i) designate dedicated procurement staff in respective PIUs, (ii) develop common registration platform for contractors, or alternatively issue the GO validating contractor's registration certificate, and (iii) issue GO for creation of budget head and outlining financial management arrangements including fund flow.

77. The following are inputs for Program Action Plan (PAP): (i) develop and institute robust GRM, (ii) develop and implement vigilance system at all levels of the Implementing Agencies, (iii) develop and implement Integrated Program MIS, (iv) implement computerized accounting systems and

accounting reforms in UJN and UJS in all divisions, and (v) develop and operationalise medium term expenditure framework (MTEF) for the sector.

C. Environmental and Social

78. An Environmental and Social Systems Assessment (ESSA) has been completed according to the PforR Financing Policy, including the disclosure and consultation process. The ESSA was prepared based on a review of existing information and field visits, discussion with relevant stakeholders, and consultations with representatives of the line departments, user groups and with community members. These discussions allowed the team to gain detailed knowledge of social and environmental systems in the program areas. The ESSA also examined the scope, risks, benefits and potential impacts of the Program from an environmental and social perspective (Annex 6).

79. A sub-sectoral analysis of the WSS sector in the state of Uttarakhand informed the ESSA. The assessment involved a review of the roles, responsibilities and capacities of the institutions engaged in the water sector, the legal-policy environment governing the sector, and existing systems for implementation and management of proposed Program activities. The ESSA also examined the extent to which state systems and processes are consistent with the Bank's Policy and Directives for PforR Financing and are adequate to manage potential social and environmental benefits and risks of the Program. The overall assessment concluded that the present systems are largely consistent with the PforR Policy and its core principles related to the adequacy of legal and regulatory systems, impacts on cultural and natural resources, public and worker safety, land management under the program, cultural appropriateness and risks of potential conflict.

Environmental aspects under the Program

80. The overall environmental impact of the Program is expected to be positive. While it is likely that groundwater would be the major water source in peri-urban areas, water abstraction in these areas is likely to be safe. This is because the overall water requirements for the project are expected to be small, the GoUK data suggests that existing aquifers are in good health, and the project area does not have any dark zones. The Program is expected to improve access to potable water, with no significant adverse environmental impacts expected due to the proposed interventions.

81. *Environmental Risks*: The environmental risks of the Program are considered moderate. Some specific risks that would need to be managed under the Program include: (i) increased urbanization resulting in greater demand for water; (ii) adherence to existing regulations such as eco-sensitive zone, battery disposal, and other waste related regulations; (iii) inadequate implementation of occupational health and safety measures – especially during construction; (iv) for smaller schemes, the pump operators may not have the capacity to ensure proper management of systems; (v) some project areas could be adjoining Protected Areas and eco-sensitive zones and may have wildlife movement, that could be disturbed during project related construction activities; and (vi) increased waterlogging due to inadequate drainage and the use of IHHLs that may lead to possible adverse health impacts and groundwater contamination.

82. *Measures to address Environmental Risks*: The state has a well-established system to address many of these environmental risks, including several strong central and state level legislations, well-established state institutions, and an effective regulatory framework that governs environmental management. Uttarakhand also has a network of water testing laboratories, and both UJN and UJS are responsive to environment-related concerns, such as reduction in energy consumption and identification of measures for water resource sustainability. The identified risks are easy to mitigate with improved institutional capacities and by ensuring that adequate systems are in place. Specific measures to manage environmental risks under the Program include: (i) creation of appropriate Occupational Health and Safety (OHS) systems for construction management; (ii) ensuring appropriate waste management

systems for waste from Water Treatment Plants (WTPs) and construction sites; and (iii) development of well-managed water supply systems and distribution networks that include regular chlorination.

Social aspects under the Program.

83. The ESSA identified that the overall social risks associated with the Program are moderate. The program would likely have positive social impacts on the lives and livelihoods of large vulnerable peri-urban and rural communities that still do not receive optimal levels and quality of water supply services. It is also likely to strengthen the community capacity for participatory planning and supporting implementation of water supply schemes. Investments in identified peri-urban areas are likely to enhance the social capital of the regions and improve participation and access of vulnerable communities to water supply services.

84. The ESSA has identified two key gender issues in the project. The first is that poor access to drinking water adversely impacts women and girls much more than men. Women play a central role in meeting basic household needs and therefore face drudgery and spend a substantial amount of time in the collection of water through hand-pumps, bore-wells, tanker supply, etc. The program design is expected to improve access to water for all households in peri urban areas and would significantly reduce drudgery and time loss for the women and girls of the family who are tasked with organizing drinking water for the household. Based on the analysis of household survey data and baseline information provided by GoUK, the expected time savings in water collection per household ranges from 30 minutes to 55 minutes per day depending upon the source of water and terrain. Moreover, the improved water supply services will result in health benefits due to reduction in several diseases associated with existing poor quality of water, to which women are more likely to be impacted due to responsibility of taking care of the sick, especially the children. Data obtained from the household survey, discussions with health professionals, and World Health Organization estimates indicate that "person days" lost averages three days per incidence, with seven percent of households affected per year. Improved water supply services would therefore reduce the days lost from illnesses. Other impacts from improved water supply includes reduced health expenditure, enhanced savings, and more productive engagement for the women members of the household.

85. Another key gender issue is relatively low and ineffective participation of women in community activities as reflected in the previous Bank supported RWSS Project in Uttarakhand. The result is that women's opinion, including grievances with respect to water supply services, are not taken into account. The Program would engage with the stakeholders including community based organizations, comprising of women based Non-Government Organizations (NGOs), Self-Help Groups (SHGs), Resident Welfare Associations (RWAs) in the peri-urban areas to ensure that women get equal access to the program benefits including grievance redressal mechanisms. The Program will also include training programs for women and other marginalized groups to enhance their capacity and encourage their involvement in various activities of the project. In addition, there would be gender balance in the recruitment of the staff for the Program. GoUK would prepare a service-oriented water supply policy for peri-urban areas, focusing on institutions, technical and financial programs, including gender mainstreaming and citizen engagement.

86. One of the PDO level indictor relates to number of female beneficiaries. Gender disaggregated data would be collected through the customer satisfaction survey for monitoring the impact of interventions on women in the peri-urban areas by SPSU. In particular, the customer satisfaction survey will look at time saved from not having to collect water and ways in which women and girls are utilizing the time saved (e.g., for education, income generation, etc.,). An intermediate results indicator would also measure women's participation in training programs to enhance their capacity to involve themselves in various project activities. Furthermore, an integrated GRM established under the project would have special provisions for tracking complaints and suggestions of the poor and vulnerable sections (scheduled castes, scheduled tribes, and women). The overall results on gender equity and access shall be tracked through DLI 3 and 4.

87. *Inclusion*: This program would emphasize on covering vulnerable and poor sections for inclusive service delivery. About 39 percent of the population in the peri-urban areas in the state is below poverty line. Schemes would be designed to ensure that the vulnerable and marginalised sections get access to benefits. Volumetric tariffs and metered connections are likely to make the water supply services more accountable and equitable. Capacity building under the program would be undertaken in a manner that the vulnerable and marginalised groups are able to actively participate in the program activities.

88. *Citizen Engagement*: The program activities would be carried out through an inclusive and participatory process that involves active citizen engagement with stakeholders and community based organizations comprising of NGOs, RWAs, SHGs etc. This would be done through regular meetings and capacity building activities. During implementation of the Program it will be ensured that there is focused consultation with the marginalized communities and disadvantaged groups and specific focus on citizen feedback on the program activities. This would help to reduce chances of conflict within the people living in peri-urban areas and of exclusion. This would lead to greater ownership by the local people and encourage them to participate in the program activities.

89. *Integrated Grievance Redressal Mechanism:* An integrated GRM would be established within the first six months of program implementation and would subsequently be reviewed for its effectiveness. Individual complaints and identification of recurrent issues pertaining to program implementation would be assessed using the GRM. It would comprehensively capture grievances submitted at all levels for the entire scheme cycle. The grievance redressal mechanism would have special provisions for the poor and vulnerable sections (SC, ST, and women). The GRM would capture complaints submitted at all levels across the entire scheme cycle. Citizen engagement programs, including citizen feedback mechanisms would also be used to create awareness of the GRM under the program.

90. *Existing Social Systems and Policies*: The state has well-established social systems, progressive policies and legislations and comprehensive institutional mechanisms to address the social issues that may emerge from current implementation processes and from potential program investments. Favourable state policies that facilitate people's participation and partnership in planning and implementation of water supply schemes are also in place and are supported by an enabling national legal framework for the WSS sector. This program complements these policies and aims to strengthen inclusive and accessible water supply services delivery in selected areas. The state government has robust systems, progressive policies, legislations, and comprehensive institutional mechanisms to address the social risks and issues that may emerge from current implementation processes and from potential program investments.

91. *Social Risks:* The major social risks and challenges relate to weak inter-agency coordination among the District Implementing Agencies (DIAs) working in the WSS sector and limited capacities within DIAs to mainstream social processes like participation, accountability and inclusion. Other challenges include low levels of social mobilization, limited capacity and role of local self-governments for supporting the management of water supply schemes, ineffective implementation of mechanisms to ensure participatory and inclusive planning of schemes, leading to the exclusion of vulnerable and marginalized communities, and potential risk of social conflicts between old and new settlers in peri-urban areas.

92. *Measures for addressing social risks:* Measures for addressing the social risks include (i) stronger social mobilization engaging the interest and social groups for greater ownership, (ii) operationalisation of user-friendly and uniform GRM for peri-urban water supply sector, (iii) creating sustained social capacities within all the DIAs to involve stakeholders in supporting planning and implementation of water supply schemes, (iv) improved and effective field level coordination and information sharing among the DIAs for social safeguards. The above measures are integrated in the

design of the program. The key program action point is to develop and implement social risk screening mechanisms for assessing impact of program investments.

Climate Change aspects under the Program

93. *Climate Change Mitigation, Adaptation, and Co-benefits*: The peri-urban water supply program would support the provision of 24/7, pressurized universal water supply coverage, where presently coverage is 45% of households with poor and intermittent supply. With this improved access, consumers would no longer need to pump groundwater, or from storage underground reservoirs, reducing energy consumption and the use of diesel pump sets. The resultant reduction in fossil fuel usage would have a climate change mitigation effect which can be duly assessed during implementation of the Program. The adaptation co-benefits are based on specific activities supported by the DLIs, mainly due to water supply infrastructure being designed to be climate resilient. Following are the anticipated impacts of climate change in the context of Uttarakhand:

- *Vulnerability context*: The extreme weather impacts in the State of Uttarakhand are likely to be exacerbated because of climate change. The major risks posed by climate change are increased intensity of storms and hurricanes, droughts and greater flooding, and changes in temperature. There are several risks posed by extreme weather that create vulnerabilities in the water sector. Climate change represents an additional important risk for Uttarakhand's natural resource-based growth. The State is already experiencing changes in its climate, and precipitation is increasingly unpredictable. However, as precipitations become more erratic, and extreme events such as floods become more intense, there is an even greater need to implement concerted, multi-sectoral solutions to address these issues.
- *Need to address Vulnerability*: Going forward, to increase access to improved water supply services in peri-urban areas in Uttarakhand, the proposed project is designed to directly contribute to this structural transformation process by supporting several of those strategic shifts with a focus on building climate resilience in the water sector in the State of Uttarakhand. It is intended that increasing access to improved water supply services in peri-urban areas through this Program will be designed with climate resilience in mind. It is envisaged that actions related to improving access to water supply will make the systems more resilient to climate change.
- *Link to Program activities*: To enable the State of Uttarakhand to meet the current and future challenges of the impact of climate change, the Program DLIs and activities will incorporate climate resilient designs.

D. Risk Assessment

94. Based on the technical assessment, the Program is rated as having a "substantial" risk in relation to sector strategies and policies, institutional capacity and fiduciary perspectives. The risk rating is moderate on environmental and social perspectives. Given the low capacities in meeting the water supply service delivery challenges of the peri-urban areas, the overall risk rating of the Program is substantial. However, adequate measures have been identified as part of the design of the Program to address these issues. The Systematic Operations Risk Rating (SORT) matrix is provided in Annex 7. The key risks and mitigation measures are outlined below.

95. *Sector Strategies and Policies*. The state does not have a water supply policy and there is limited emphasis on aspects such as 24x7 service delivery, metering, cost recovery and PPP approaches. Also, there is inadequate attention to the preparation of master-plans for guiding sector development in a planned manner. Currently, these do not cater to the emerging sector requirements in the peri-urban areas, hence the risk rating is Substantial. The Program specifically introduces the preparation of a Water Supply Policy with a service delivery orientation and the preparation of Water Supply Master-plans that would provide policy guidance and strengthen the planning capacity of sector institutions using tools, strategies and partnerships, such as environment and social plans, baseline survey, DBO/PPP approaches, etc.

96. *Institutional Capacity for Program Implementation and Sustainability.* The institutional assessment found critical weaknesses in all sector institutions across various aspects such as strategic orientation, strategic leadership, managerial autonomy, customer orientation, organization structure, etc. The institutional capacity risk is rated Substantial. The Program includes specific incentives through DLIs (improved water supply coverage, improved water supply systems, water policy, master-plans, M&E system) as well as studies and technical assessments to address the risks related to the delivery of this operation. Through the performance contracts, the Program would introduce accountability of implementing agencies and a focus on service delivery aspects during design, construction and O&M stages. The Program includes special attention to trainings and exposure visits to build capacity with the sector institutions. The Program also includes the preparation of Manuals, including Technical, Financial, Procurement, Standard Operating Procedures, etc., which would provide guidelines to the sector institutions. The Program would support building capacity on aspects such as customer engagement, facilitating water connections, meter reading, billing, collection, consumer grievance redressal, etc. The technical capabilities would be built to execute water supply schemes and achieve service delivery benchmarks such as continuous pressurized water supply with metering and NRW reduction. The Program introduces the results-based approach to planning and implementation and a shift from an engineering focus to service delivery orientation. The design of the performance / outcome based approach would prove critical in providing a roadmap for implementation capacity improvements, successful outcomes, and sustaining these outcomes.

97. *Fiduciary.* The overall fiduciary risk is identified as Substantial due to a number of gaps identified as part of the fiduciary assessment. These include the preparation of SBDs for procurement of goods, works and services in line with Procurement Rules 2008 (amended in 2017). The Procurement Manual currently used by UJN needs to be adopted for this Program as it provides comprehensive guidance to the users on procurement management. Integrated Program Monitoring Information System needs to be supported under the Program for procurement, contract management and financial management. The proposed PAP addresses the deficiencies noted in financial management systems. These include the development and operationalization of computerized accounting systems for sector institutions and rolling out of computerized Accounting reforms in UJN and UJS in all divisions.

98. *Other Risk*. This is the first PforR for GoUK and would require a substantial shift in mindset from designing traditional infrastructure programs to adopting customer-oriented service delivery approach. The Program Result Framework allows the achievement of the PDO through DLIs which are realistic, measurable and verifiable. The verification protocols have been finalized with the sector institutions and the ToR for IVA is available. The Program also includes capacity building, training, and sensitization programs for the sector institutions to design and implement results based programs.

99. *Governance and Accountability Systems:* The key gaps are lack of vigilance systems operating below the state level (i.e. within line agencies), lack of a complaints-handling system for procurement and financial management, lack of verification, oversight systems, and non-inclusion of fraud and corruption clauses in standard bidding documents. In order to address these gaps, the Program includes support for strengthening the M&E system, including conducting independent verification of results, technical, procurement and financial audits, strengthening of GRM and citizen engagement programs, and the design and implementation of performance contracts/agreements between state and sector institutions. In addition, the VE of the state serves as a special police force and functions through two sector offices.

100. *Climate and Disaster Risk and Mitigation Measures:* Uttarakhand has experienced climate and geophysical hazards in the past and is expected to experience these in the future as well. The region is highly exposed to increase in extreme temperatures, droughts, extreme precipitation and urban floods, and earthquakes. Water resources can be affected by changing temperatures, precipitation regimes, and humidity, with long-term implications on the amount and quality of water available. Intended climate-change adaptation and mitigation measures incorporated in the Program design are likely to moderate the impact and ensure continuation of a critical service like water supply in case of water scarcity/drought event, flooding or heat stress. The proposed Program, through DLIs and planning and

policy, would strive to integrate water scarcity/drought and flood management while undertaking construction, rehabilitation and augmentation of schemes. These measures are expected to improve the energy efficiency of operation and result in lower energy use, operational cost and associated greenhouse gas emissions. Other measures include storage of (fresh) water, provision for flood-resilient materials/design for pipelines and other water supply infrastructure that would enable continued water supply services during climate-change induced extreme events. The master-plans would incorporate a range of issues and risks such as addressing the risk of floods. Overall, the Program would result in efficient supply of water in peri-urban areas, reducing energy use, associated costs and greenhouse gases to address the risk of climate change. The proposed improvement in the planning and design would result in more climate change resilient water supply infrastructure.

E. Program Action Plan

101. To address Program risks from safeguards and fiduciary aspects, the DDWS would undertake the following key actions:

(i) Safeguards

- Develop and implement social and environment risk screening mechanisms for assessing impact of program investments

(ii) Procurement and Financial Management

- Develop and institute robust GRM
- Develop and implement vigilance system at all levels of Implementing Agencies
- Develop and implement Integrated Program MIS (procurement, finance and contract management system)
- Implement computerized accounting systems and accounting reforms in UJN and UJS in all divisions
- Develop and operationalize MTEF for the sector

(iii) Timely Reporting of Progress Reports for DLIs

- SWSM/SPSU to prepare Annual Reports on the progress and achievement of the DLIs.

102. The specific actions, completion dates, responsible agencies, and specific measures are presented in detail in Annex 8.

Annex 1: Detailed Program Description

A. Background – GoUK Water Supply and Sanitation Program

1. The GoUK envisions achieving universal water supply coverage in urban areas by 2030[10], in rural areas by 2022[11], and basic sanitation facilities across all geographical areas by 2019[12]. The GoUK aims for an integrated development of urban areas along with improvements in service delivery.[13] The state has already achieved the state-wide ODF status in June 2017. The GoUK has specifically prioritized the provision of water supply in the peri-urban areas at par with the urban areas. The GoUK WSS program includes strengthening sectoral policies and program for enhancing service delivery standards. It also includes strengthening of sector institutions, building their planning and implementation capacities, and making them financially sustainable. The GoUK WSS Program is well aligned with the GoI targets, and comprises six sub-sectoral components: (a) Urban Water Supply, (b) Urban Sanitation, (c) Rural Water Supply, (d) Rural Sanitation, (e) Peri-urban Water Supply, and (f) Peri-urban Sanitation, presented below. The overall funding requirement for the state's WSS Program to address the service delivery gaps across the state over the medium- term period (2018-24) is estimated to be USD 477 million (Table A1.1).

2. The GoUK anticipates that the funding for the state's WSS Program would be met mostly through state funds and GoI flagship programs such as NRDWP, AMRUT, Smart Cities, SBM-G and SBM-U, and externally aided projects. The state has an average annual sector fund availability of USD 97 million for the past four years. The GoI program contributes 35 percent, the State budget contributes 35 percent, and Externally Aided Projects contribute about 30 percent of the sector allocations. However, only USD 49 million is expected to be available annually since GoI financing under national flagship programs is being reduced and externally aided projects have been completed. Thus, against the annual requirement of USD 80 million, the availability of USD 49 million would imply an annual deficit of USD 31 million to achieve the sector vision outlined by the state.

3. Further, the state does not have a comprehensive WSS policy covering institutional, infrastructure and financial aspects. The Uttar Pradesh Water Supply and Sewerage Act of 1975, adapted and modified in 2002, provides guidance to the WSS sector across the state. In addition, for the GoI programs, the responsible ministries provide guidelines/manuals to be followed by the sector institutions/state government. Collectively, the acts/legislation of the state and Guidelines of GoI Schemes act as policy guidance for the sector institutions in the WSS sector. Also, none of the sector institutions are financially sustainable from their operations alone. The unsustainability of sector institutions and inefficiencies in operations presents challenges for the state to meet its larger vision of universal WSS coverage. These challenges are especially critical for the peri-urban areas due to fragmentation of responsibilities and absence of identified sources of funding. The Uttarakhand Water Supply Program would support GoUK in addressing the most critical challenges of the rapidly expanding peri-urban areas.

[10]In line with the Sustainable Development Goal 6 and GoUK Urban vision
[11]In line with the NRDWP targets
[12]In line with Swachh Bharat Mission targets
[13]Official Website of Urban Development Directorate, the GoUK

Table A1.1: GoUK WSS Sector Targets and Fund Requirements

Components	Baseline (2016)	Targets for Service Improvement (2030)	Medium Term Targets Service Improvement (2018-24)	Medium Term Fund Requirement (2018-24) USD millions
Urban Water Supply	78% of the households have access to piped water supply; low levels of services with intermittent supply	Universal coverage with treated and pressurized piped water supply; at least 60% households with metered connections	50% coverage with treated and pressurized piped water supply; at least 30% households with metered connections	110
Urban Sanitation	Over 94% of urban residents have access to toilets; 30% of the urban population is connected to sewer network.	Universal coverage for Individual Household Latrines (IHHL); At least 50% urban population has access to wastewater collection and treatment	Universal coverage for Individual Household Latrines (IHHL); At least 20% urban population has access to wastewater collection and treatment	72
Rural Water Supply	64% of the households have access to piped water supply; low levels of services with intermittent supply	At least 50% households with 70 lpcd	At least 30% households with 70 lpcd	135
Rural Sanitation	100% rural households have access to toilets; 10% rural households have access to Solid Liquid Waste Management	Universal Coverage of Individual Household Latrines (IHHL); 40% rural households have access to Solid Liquid Waste Management	Universal Coverage of Individual Household Latrines (IHHL); 20% rural households have access to Solid Liquid Waste Management	0 10
Peri-urban water supply	45% households have access to piped water supply; low levels of services with intermittent supply; most households adopt self-provisioning coping mechanisms	100% metered connections, with treated, pressurized, continuous water supply	At least 70% metered connections, with treated, pressurized, continuous water supply	150
Peri-urban sanitation	100% urban residents have access to toilets	Universal coverage for Individual Household Latrines (IHHL)	Universal coverage for Individual Household Latrines (IHHL)	0
Total				477

B. The Program - Uttarakhand Water Supply Program for Peri-urban Areas

4. *The PDO is to increase access to improved water supply services in peri-urban areas in Uttarakhand*. The Program, using the PforR instrument, intends to support the peri-urban water supply slice of the GoUK WSS program over a six-year period (2018-24) with total Bank financing of USD 120 million to incentivize water supply service delivery improvements along with policy formulation, enhanced planning capabilities, and strengthened M&E system. The scope of Bank-supported PforR consists of two key activities: (i) performance based financing for improved water supply services in peri-urban areas; and (ii) incentives to strengthen policy, planning and monitoring of water supply program for peri-urban areas. The Program is designed to focus on the neglected service delivery in these transitional peri-urban areas.

5. The Program aims to address the critical constraints identified in the GoUK's peri-urban water supply program: (a) providing access to improved water supply services for peri-urban areas, incorporating interlinkages with rural and urban areas and using the best technological options; (b) developing water supply policy to set out principles and associated guidelines for the peri-urban areas across the state; (c) focusing on planning processes for water supply services in the peri-urban areas, currently neglected by both urban and rural local bodies; and (d) developing a comprehensive M&E system for water supply in peri-urban areas. The Program would incentivize improvements in water supply services in peri-urban areas benefitting 0.5 million people.

Program Areas

6. All the peri-urban areas of the state are eligible for receiving performance-based financing. Building on the CT definition, the GoUK has clarified that peri-urban areas for Uttarakhand are those which meet the criteria of: (a) minimum density of 200 persons/sq.km; (b) within 10 km aerial distance from the existing limits of ULBs; and (c) not upgraded to / merged with a statutory town as of April 1, 2016. The peri-urban areas identified for the program include 31 CTs and 4 CT-like areas that are rapidly expanding.

7. Based on the above criteria, an estimated population of 770,000 are residing in the peri-urban areas. The table below presents the four rapidly expanding growth clusters identified by GoUK and the 31 CTs in these growth clusters.

Table A1.2: Peri-Urban Areas in Uttarakhand

Growth clusters	Peri-urban Areas
	Census Towns
Growth Cluster I: Dehradun-Rishikesh	Eleven CTs of Dhalwala, Jiwangarh, Central Hope Town, Raipur, Natthan Pur, Mehu Wala Mafi, Natthuwa Wala, Rishikesh Dehat, Gumaniwala, Pratitnagar and Kharakmafi
Growth Cluster II: Haldwani-Kathgodam	Three CTs of Fatehpur Range, Mukhani, Haldwani Talli and four CT like areas of Bithoriya No. 1, Kusumkhera, Bamori Talli Bandobasti and Gaujajali Uttar Range
Growth Cluster III: Hardwar-Roorkee	Nine CTs of Haripur Kalan, Saidpura, Bangherimahabatpur, NagalaImarti, Dhandera, Maohanpur Mohammadpur, RawaliMahdood, Bahadarabad and Jagjeetpur
Growth Cluster IV: Khatima	Three CTs of Umrukhurd, Maholiya, and Bandiya
Stand Alone Census Towns	Five CTs of Khatiyari, Kanchal Gosain, Nagla, Padampur and Kashirampur

Program Scope - PforR

Activity 1: Performance-based financing for improved water supply services in peri-urban areas

8. The program would support the improvement of water supply services in peri-urban areas. Targeted improvements include increased coverage, as well as quality and reliability of services as per service level benchmarks of MoUD, GoI. Services would be provided through piped network and metered service connections focusing on improving operation and management and strengthening sustainability of the water supply systems with respect to financial, technical and institutional aspects. A set of DLIs for measuring the increase in access to quality and sustainable water services are detailed in Annex 3.

9. The Program would apply urban water supply service standards and guidelines to the peri-urban areas:

- *Customer connection policy:* The UJS WSS byelaws of 2008 cover the process of submission of application along with the prescribed connection charges as per the type of use / connection (domestic/non-domestic). They also lay out the power to disconnect water connections and the reasons thereof, and the sizes of pipes, specifications of pipes and fittings at the customers end, and the number of connections that can be provided to various premises.

- *Metering policy:* The byelaws cover the provision of meters, their size, location, sealing provisions, responsibility for repair, disconnection and consequences of failure to repair. These byelaws would be applicable to all operators in peri-urban areas. The water meter cost would be borne from the program funds during the implementation period of the Program.

- *Billing and collection:* The byelaws provide for preparation and delivery of bills, the method of calculation, payment of bills and the manner of payments etc. The computerized billing and collection systems would be used in the proposed Program by all the operators.

- *Tariffs:* The UJS Water Tariff Policy of 2013, revised in 2015 and 2017, prescribes the tariffs applicable in urban areas, based on different kind of schemes (high-head, low-head and gravity). The policy outlines volumetric charges for metered domestic connections in urban areas. The peri-urban customers would be charged on the basis of volumetric tariff. The present applicable water rates for per kilolitre in urban areas are INR 6.40 for gravity type schemes, INR 8.80 for low head and INR 10.00 for high head[14] pumping. The cost of water supply varies between INR 6 to INR 10 per kilolitre. The urban tariffs would be applicable in the peri-urban areas under the Program and appear likely to achieve 100 percent O&M cost recovery.

- *Operations and maintenance policy:* The O&M policies outlined by GoUK would apply to peri-urban areas. The O&M costs include those for spare parts, pipes and fixtures; electricity and other fuel and chemicals, etc.; labour (salary and benefits for full time/part time staff); contractors providing support to operations; casual labourer for maintenance works; staff vehicles; and staff connectivity. The O&M costs (excluding depreciation) shall be fully recovered by tariffs as per urban water supply standards and, in certain cases, (especially in high head pumping schemes) government subsidies to operate and maintain water supply schemes.

- *Performance Agreements:* The Program would introduce accountability of implementing agencies (UJN and UJS) through formal performance agreements between the DDWS and UJN/UJS. The performance agreements are expected to clarify the responsibilities of the implementing agencies in design, construction and O&M stages of the schemes to: a) achieve the DLIs of the Program; b) meet the urban service level benchmarks recommended by the GoI; and c) lay out the cost budgets of the Program. The GoUK would be responsible for a cost recovery framework with transparent

[14] Low head is pumping head up to 100 metres and high head is above 100 metres.

subsidies and a volumetric tariff structure. The performance agreements would specify the methodology for collection and verification of data to measure the performance of both the contractors and the implementing agencies. In addition, the performance agreements specify the responsibility of the implementing agencies to develop information systems, financial management procedures, and M&E systems.

10. The Program interventions would support improvements in efficiency and sustainability of water supply services through metering, volumetric tariffs, NRW reduction, and improving O&M cost recovery. The following are the key features for service delivery improvements[15] under the Program:

- A minimum 16-hour water supply which meets GoI water quality standards, supplied at a minimum pressure of 12m, for no less than 300 days in a year.
- 100 percent customer metering and volumetric tariffs.
- Sustainable water supply systems which recover O&M costs through user charges with transparent GoUK subsidies, if any.
- NRW reduction along with water audits/leak detection programs.
- Appropriate service delivery models, including PPP options, for accountable services.

11. The following Program outcomes would be monitored as per the service level benchmarks recommended by the MoUD, GoI:

- Coverage of water supply connections - 100 percent
- Per Capita Supply of Water - up to 135 lpcd
- Extent of Non-revenue Water - Maximum 30 percent
- Extent of Metering - 100 percent
- Continuity of Water supplied –minimum 16 hours (SLB) is however 24 hours)
- Efficiency in addressing customer complaints - 80 percent
- Quality of Water Supplied -up to 100 percent
- Cost Recovery - 100 percent (operations costs)
- Efficiency in Collection of Water Charges - 90 percent
- Terminal pressure of 12m during peak supply period (not included in the present SLBs of MoUD)

12. Activity 1 would support program management, technical assessments and studies, and strengthen governance and accountability mechanisms to deliver the Program results.

a) *Program Management Support*:
   (i) supporting the SPSU with sector professionals and facilities; and
   (ii) supporting the PIUs with sector professionals and facilities for UJN and UJS.

A SPSU would be set up under the SWSM and would function as an apex institution to coordinate the program, including planning, coordination, management, and monitoring the progress and implementation of the Program. The implementation agencies, UJN and UJS, would carry out their operational responsibilities through PIUs at headquarter level and FIUs at divisional levels. The Program would finance the PSU and PIUs, while the FIUs are incentivized through the DLIs.

b) *Technical Assessments and Studies:*
   - Baseline Survey to update and validate the baseline data.
   - PPP models and Transaction Advisory Services.
   - Communication program and strategy.
   - Training needs assessment and capacity building program for the implementing agencies.
   - Technical Manual, Financial Management Manual, Accounting and Financial Reporting Manual and Procurement Manual.

[15] Exceptions will be areas which are disaster affected.

- Standard Operating Procedures for the implementing agencies.
- Mid Term Review Study and Impact Evaluation Study.

c) *Strengthening Program Governance and Accountability*[16]*:*
- Independent verifications through an IVA;
- Technical and Social Audits;
- Financial Audits;
- Establishing GRM for construction and operation phases of the program;
- Establishing a citizen engagement program; and
- Implementation of Governance and Accountability Action Plan.

Activity 2: Incentives for strengthening policy, planning and monitoring of GoUK's water supply program for peri-urban areas

13. The Program would provide financial incentives to strengthen policy frameworks, planning capabilities, and the monitoring of GoUK's water supply program in peri-urban areas. The DLIs for measuring these outcomes are detailed in Annex 3. The list of activities to be supported under this category are described below.

(a) *Development and implementation of a service-oriented water supply sector policy:* GoUK would prepare a service-oriented water supply policy for peri-urban areas, focusing on institutions, technical, and financial programs. The water supply policy would be developed and implemented based on the current and future water supply requirements in peri-urban areas across the state including linkages with urban and rural sectors.

(b) *Strengthening the current M&E systems to capture timely and reliable information on Program activities and results:* The development of a robust and well-designed M&E system would be incentivized to improve sector monitoring and evaluation capabilities in peri-urban areas. The M&E system would capture planning, implementation, and O&M phases of water supply service delivery, including grievance redressal and citizen feedback, based on the latest mobile solutions and cloud-based services. It would include key sector performance indicators and robust and credible verification mechanisms for measuring Program results.

(c) *Preparation and adoption of water supply master-plans for peri-urban areas:* Incentives would be provided for preparation and adoption of water supply master-plan for peri-urban areas, addressing the requirements of at least three growth clusters of Dehradun-Rishikesh, Hardwar-Roorkee and Haldwani-Kathgodam. This would help in strengthening planning processes for peri-urban areas and in achieving convergence with concerned departments and development authorities for developing integrated plans for peri-urban areas of Uttarakhand.

14. This Activity would support capacity building and training programs to deliver the Program results. These include programs for sector institutions for enhancing project management skills,

[16] **Grievance Redress Service:** Communities and individuals who believe that they are adversely affected by a World Bank project may submit complaints to existing project-level grievance redress mechanisms or the World Bank's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit http://www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

preparation of DPRs, financial and accounting processes, procurement processes, and customer orientation and citizen engagement.

C. Institutions and Implementation Arrangements

15. The institutional and implementation structure for the proposed Program would be embedded within the existing WSS structure in Uttarakhand. Key sector institutions, the UJN and the UJS, under the aegis of the DDWS, would be responsible for implementing the Program. These existing institutions have successfully implemented earlier Bank supported RWSS projects and the proposed implementation arrangement would help build on the existing skills in the sector institutions. The DDWS would continue to be the nodal agency responsible for the Program, with SWSM as its executing agency.

16. The Secretary, DDWS and Chief Executive Officer, SWSM, would be the nodal persons responsible for the Program. The Joint Chief Executive Officer, SWSM would head the SPSU and would be the Program Director of the Program. The Program Director would be responsible for the day to day execution of the Program and would be supported by the other officials/staff of the SPSU. The structure of the institutional arrangements across the state, Headquarter and District/Division Level is illustrated below in Figure A 1.1.

Implementation Arrangements

17. At the state level, the DDWS would continue to be the nodal agency responsible for implementing the urban and rural sector WSS programs across the state and the implementation of UWSP. A SPSU would be established at the state level to coordinate all Program activities. The SPSU would undertake Program-related activities at the state level, including planning, management, and monitoring the progress and implementation of the Program. The SPSU would also coordinate Program-related activities with the PIUs which would be set up at the headquarters of the two implementing agencies. The SPSU would be housed under the aegis of the SWSM. It is envisaged that the SWSM would expand its policy guidance and advisory role from currently being only in rural WSS sector to urban and peri-urban WSS sector as well. The SPSU would be responsible for financial control and management and will coordinate training and capacity building and IEC activities for the Program.

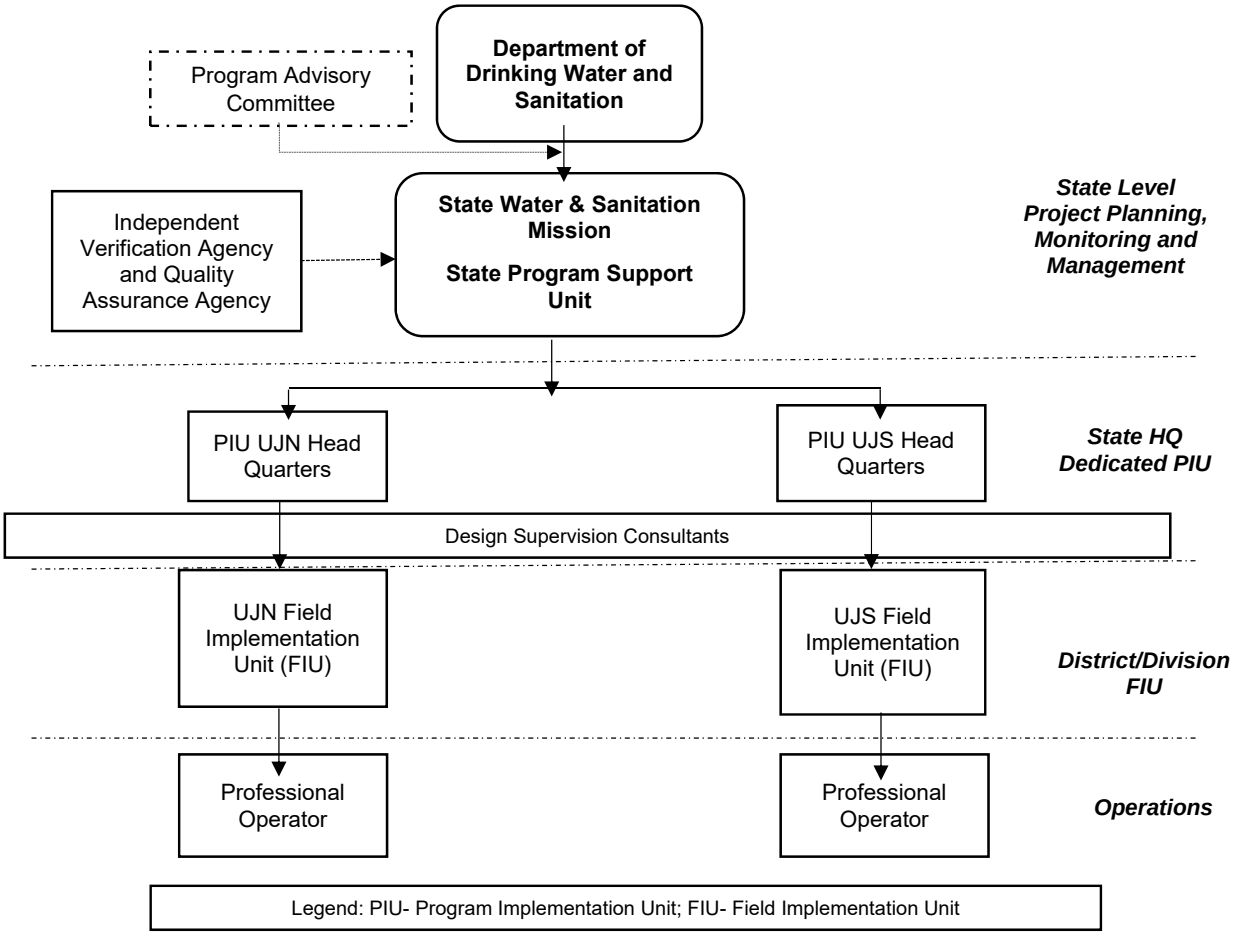
18. A Program Advisory Committee chaired by a Secretary-level official of DDWS would be constituted to achieve better convergence with ongoing programs in the Program areas and intra-institutional coordination. The advisory committee will have members from UJS, UJN, SPSU/SWSM, Irrigation Department, UDD and the concerned Urban Development Authorities (UDA)/Special Area Development Authorities (SADA) of the Program areas.

19. The main sectoral institutions, UJN and UJS, have extensive experience in implementing reform oriented projects in the state and will be responsible for implementing the Program components in the peri-urban areas. The SPSU/SWSM would be responsible for implementing the soft components under the Program. These existing institutions have successfully implemented earlier RWSS projects and the proposed implementation arrangement would help build on the skills in these sector institutions.

20. The UJS operates the schemes through its district teams and currently there are no operators. However, going forward, UJN and UJS may hire operators to manage the schemes. The incentives would be given to UJN and UJS and not to the operators hired by UJN and UJS. The performance risk with or without operators is with UJN and UJS. Also, based on a recent decision by the GoUK, the agency constructing the scheme would be responsible for maintaining the scheme. Hence, UJN and UJS can be seen as two utilities for the proposed Program. This decision would help in addressing the life-cycle costs and related issue of poorly designed schemes.

21. At the headquarter level, the UJN and UJS would set up PIUs which would be supported by design and supervision consultants for preparation and implementation support. At the district/division level, the UJN and UJS would set up field implementation units (FIUs) to implement and monitor the Program activities.

FigureA1.1: Institutional Arrangements



Institutional Roles and Responsibilities

22. The SPSU would co-ordinate with the PIUs and the PIUs would oversee their respective FIUs. The UJN and UJS would be responsible for implementation of the project components in the peri-urban areas as they have been developing and managing schemes in both the urban as well as rural areas. It is envisaged that SPSU/SWSM would support the Program by acting as a resource organization to bring about water supply reforms in the state, developing state specific IEC strategy for reform initiatives in water supply sector, capacity building of sector institutions, etc. More specifically under the UWSP, the envisaged role for SWSM includes strengthening the M&E system, introducing citizen engagement and GRM, developing IEC/BCC programs, undertaking regular documentation of lessons learnt and good practices, developing the Swajal Pathshala as a centre of excellence for training and capacity building, etc. The following table presents the key roles and responsibilities.

TableA1.3: Institutional Roles and Responsibilities

Key Sector Institution	Broad Roles and Responsibilities for the proposed UWSP
Department of Drinking Water Supply and Sanitation	• Nodal agency responsible for implementing the urban and rural sector WSS programs • Overall responsibility for implementation of UWSP
State Water and Sanitation Mission	• Apex policy making body for WSS programs in Rural, Urban and peri-urban areas • Provide strategic guidance to the SPSU • SPSU would be housed under the SWSM
Program Advisory Committee	• Advisory Committee, chaired by Secretary level official, DDWS, with members from UJS, UJN, SWSM/SPSU, UDD, Irrigation Department, UDA/SADAs • Advisory Committee will enable better coordination and convergence with ongoing programs in the Program area, including institutional coordination and planning, and verification of data and results for DLIs 3, 4, and 5.
State Program Support Unit	• Program Planning, Monitoring and Management • Coordinating the Program at state level and with PIUs/FIUs at the partner institutional levels • Overseeing the implementation and monitoring of schemes • Financial control and management • Training/Capacity building and IEC activities • Acting as a resource organization for bringing about WSS reforms in the state, developing state specific IEC strategy, capacity building of sector institutions • Citizen engagement and GRM under UWSP, designing and implementing Impact Evaluation Program, developing an IEC/BCC program, undertaking regular and continuous documentation of lessons learnt and good practices • Developing Swajal Pathshala into a centre of excellence, as a training and capacity building resource for the sector institutions • Technical support to implementing agencies, if required
Uttarakhand Peyjal Nigam	• Implementation of water supply schemes through dedicated PIU at HQ level and FIU at District/Divisional levels • Continue its current WSS mandate in the state
Uttarakhand Jal Sansthan	• Implementation of water supply schemes through dedicated PIU at HQ level and FIU at District/Divisional levels • Continue function of O&M across state, including augmentation of water supply projects/schemes

Role of SPSU

23. The primary functions of the SPSU shall be Program management, and monitoring and evaluation, supported by a combination of teams from GoUK sources and external experts. The principal tasks for the units under the SPSU include, but are not limited to, the following:

Policy and Planning

- Reviewing the implementation of Program components;
- Developing policies and guidance for the implementation agencies;
- Supervising preparation of Water Supply Policy and Master-plans; and
- Supervising technical and sector studies;

Management

- Preparation and updating of the Project Operations Manual (POM) for the Program;
- Coordination with various Departments and Ministries, other implementation institutions/units, and other partners in the sector;

- Monitoring the physical and financial progress of the Program including reporting, auditing, consolidation of semi-annual progress reports incorporating IVA results;
- Financial management of the Program, financial reporting;
- Strengthening program governance and accountability systems: guidelines for strengthening citizen feedback systems, enhancing grievance redressal processes and establishing social audit mechanisms; promoting transparency and social accountability through IT-enabled and other platforms;
- Ensuring mechanisms to comply with the requirements set forth in the POM and other manuals for enhancing the quality of program implementation and results;
- Facilitating rollout of training and capacity building programs of institutions/partners;
- Facilitating organization of workshops, conferences, and consultations as required.

Training and Capacity building

- Developing core technical resources for training and capacity building of implementing institutions;
- Developing training and capacity building modules in collaboration with sector partners/stakeholders and rolling out the same;
- Providing capacity support on fiduciary, social and environmental aspects to State implementation units to strengthen service delivery;
- Specialized trainings on specific themes to implementing institutions/agencies at various levels;
- Knowledge management and documentation of various interventions, including lessons learnt, course corrective measures to improve Program implementation, etc.
- Training and building capacities of Technical Resource Centres (TRCs) and Knowledge Resource Centres (KRCs) to assist in capacity building activities;
- Providing training and capacity building support to sector institutions in the areas of Program implementation, communication strategies, outreach, change management, technical options for water and sanitation, capacity support for fiduciary, social and environmental aspects; and
- Conducting exposure visits at national and international levels of key officials/stakeholders.

Communication activities

- Engaging creative professional firms/individuals team (as required) to design innovative campaigns for implementing communication programs;
- Coordinating campaigns including capacity building and targeted training in IEC roll out; and
- Communication through print, visual, social sites, and other mass media.

Annex 2: Results Framework Matrix

1. Table A2.1 indicates the Program's overall Results Framework. It should be read in conjunction with the definitions provided below:

a) **Peri-urban areas** are settlements with the following characteristics: (i) a population density of at least 200 persons per square km; (ii) located within 10 km aerial distance from the existing limits of a statutory town/municipality or urban local body; and (iii) not upgraded to or merged with a statutory town as of April 1, 2016.

b) **Improved water supply service** means a minimum of 16-hour water supply meeting GoI water quality standards, and supplied at an average pressure of 12m at predetermined points in the distribution network for no less than 300 days in a year, unless the service area is declared a disaster affected area.

c) **An improved water supply system** is one that:

- is managed under a Performance Agreement between GoUK and the operator of the system;
- has 100 percent metering of all connections to the system;
- generates revenue from water tariffs and/or government subsidy that is sufficient to cover at least the O&M costs of the system; and
- has at least 70 percent of sampled customers reporting that they are satisfied with the services.

d) **Operations and maintenance (O&M) cost recovery for water supply services** is the ratio (expressed as %) of water sales revenue and/or government subsidy to the cost of operating and maintaining water supply systems in peri-urban areas. Costs include operator staff costs (salaries and overheads), electricity costs, chemicals and consumables, repair and maintenance and other miscellaneous costs.

e) **An improved policy for GoUK's water supply program for peri-urban areas** is a formal set of principles and associated guidelines to direct and limit GoUK's actions in pursuit of its long-term goals for improved water services in peri-urban areas across the state. The policy shall contain at least the following:

- objectives and guiding principles for water service improvements across peri-urban areas;
- recognition of the unique challenges of peri-urban areas and specific strategies to address those challenges;
- specific policy statements and strategies on quality and level of services, tariffs and subsidies, O&M cost recovery, and overall financial sustainability of water services in peri-urban areas;
- specific policy statements on institutional arrangements and role of different agencies and the private sector in water service delivery in peri-urban areas.

The above may constitute a standalone water supply policy for peri-urban areas or be part of a broader policy for the entire water supply sector.

f) **A strengthened M&E system for GoUK's water supply program for peri-urban areas** is one that is able to capture and analyze, either as part of an integrated sector information system or as a separate module, the following minimum set of indicators for peri-urban areas:

- *Coverage*: percentage of households/population receiving improved water services; and number of house connections to the network.

- *Quality of service*: hours of service; pressure at pre-determined points in the distribution network; percentage of water samples meeting GoI water quality standards; and level of customer satisfaction.
- *Operational efficiency*: Billing efficiency; revenue collection efficiency; metering level; non-revenue water; and O&M cost recovery.
- *Investment efficiency*: per capita investment cost; schedule and cost performance of water schemes implemented under the program.
- *Fiduciary performance*: budget variance, time efficiency of funds flow, timeliness of recording expenditures and account reconciliations, average length of procurement processes, number of bidders and bid responsiveness, and processing time for contractor payments.

g) **Master-plan for water supply in peri-urban areas** is a strategic long-term planning tool to help meet future demand (year 2048) for water supply in targeted peri-urban areas. A master-plan would be eligible to count towards the target if it:

- is for one of the three identified growth corridors of Dehradun-Rishikesh, Haldwani-Kathgodam and Hardwar-Roorkee;
- contains at least the following: (i) description and inventory of existing water systems; (ii) population projections, service area projections, present and planned land use, water demand projections; (iii) water supply quantity and quality projections and water resource requirements; (iv) improvements needed to meet future water demand; hydraulic modelling to estimate long-term needs with documentation of each option; (v) justification of selection of particular system improvement based on needs, cost effectiveness, constructability, reliability, operation, maintenance, etc.; (vi) recommended water supply improvements, wastewater and septage management in the short-term, medium term and long-term; and (vii) documentation of costs of the improvements;
- incorporates rural-urban linkages, given the transitional nature of the clusters;
- includes an analysis of institutional options for management and delivery of services in the clusters;
- includes credible financing sources identified for priority investments in the master-plan; and
- is approved by GoUK and published through a notification issued by DDWS or any other competent authority.

h) **Performance Agreement** means any agreement, contract or memorandum of understanding signed between GoUK and UJN or UJS or between UJN/UJS and a Private Operator that imposes an obligation for achieving a specified level performance in exchange for grants or other funds from the GoUK. The performance agreement shall include: (i) performance objectives and targets to be met; (ii) time frames within which those performance objectives and targets must be met; (iii) performance indicators and targets that are specific, measurable, attributable, realistic and time-bound; and (iv) standards and procedures for evaluating performance and intervals for evaluation; and the consequences of substandard performance.

i) **Customer satisfaction** means customers' perception that certain service attributes meet or exceed their expectations. Five service attributes shall be assessed: (i) supply reliability; (ii) sufficient supply pressure; (iii) quality of water; (iv) responsiveness in approving new connections; and (v) convenience of bill payment process.

Table A2.1: Results Framework

Program Development Objective: ***To increase access to improved water supply services in peri-urban areas in Uttarakhand***													
PDO Level Results Indicators	**Core**	**DLI**	**Unit of Measure**	**Baseline**	**Target Values**						**Frequency**	**Data Source/ Methodology**	**Responsibility for Data Collection**
					Y1	**Y2**	**Y3**	**Y4**	**Y 5**	**Y6**			
PDO Indicator 1: (a) Number of people receiving improved water supply services in peri-urban areas; (b) Number of people receiving improved water supply services in peri-urban areas - female	☒	☐	(a) Number of people (cumulative)	0	0	51,622	258,111	464,600	516,222	516,222	Annual	MIS Reports from UJN and UJS; physical survey on sample basis	SWSM/SPSU, UJS, UJN
			(b) Number of people – female (cumulative)	0	0	25,811	129,056	232,300	258,111	258,111	Annual	MIS Reports from UJN and UJS; physical survey on sample basis	SWSM/SPSU, UJS, UJN
PDO Indicator 2: (a)Number of beneficiaries (b) Number of beneficiaries- female	☒		(a) Number of beneficiaries (cumulative)	0	0	51,622	258,111	464,600	516,222	516,222	Annual	MIS Reports from UJN and UJS; physical survey on sample basis	SWSM/SPSU, UJS, UJN
			(b) Number of beneficiaries – female (cumulative)	0	0	25,811	129,056	232,300	258,111	258,111	Annual	MIS Reports from UJN and UJS; physical survey on sample basis	SWSM/SPSU, UJS, UJN
PDO Indicator 3: Number of peri-urban areas with improved policy, planning and M&E systems implemented	☐	☐	Number of Peri-urban areas	0	0	0	5	10	15	30	Annual	Annual Report of SWSM	SWSM/SPSU

Intermediate Results Indicators	**Core**	**DLI**	**Unit of Measure**	**Baseline**	**Target Values**						**Frequency**	**Data Source/ Methodology**	**Responsibility for Data Collection**
					Y1	**Y2**	**Y3**	**Y4**	**Y 5**	**Y6**			
Results Area 1: Increased access to improved water supply services in peri-urban areas													
Intermediate Results Indicator 1.1: Number of water connections providing improved water supply services in peri-urban areas	☐	☒	Number of connections (cumulative)	0	0	10,324	51,622	92,920	103,244	103,244	Annual	MIS Reports from UJN and UJS; physical survey on sample basis	UJS, UJN, SWSM/SPSU, and IVA

Intermediate Results Indicator 1.2: Sustainability of water supply service delivery in peri-urban areas	☐	☒	TSI score for water supply systems in peri-urban areas	0	7.40	25.90	55.50	96.20	96.20	96.20	Annual	MIS Reports from UJN and UJS; physical survey on sample basis	UJS, UJN, SWSM/SPSU, and IVA
Intermediate Results Indicator 1.3: Customer satisfaction with improved water supply services	☐	☐	Percentage	No report on customer satisfaction			35%	50%	65%	70%	Annual	IVA Report	IVA
Intermediate Results Indicator 1.4: Number of hours per day per household saved[17] due to water connection – female	☐	☐	Number of hours	0	0.5	0.5	0.5	0.5	0.5	0.5	Annual	MIS Reports from UJN and UJS; physical survey on sample basis	UJS, UJN, SWSM/SPSU

Intermediate Results Indicators	**Core**	**DLI**	**Unit of Measure**	**Baseline**	**Target Values**						**Frequency**	**Data Source/ Methodology**	**Responsibility for Data Collection**
					Y1	**Y2**	**Y3**	**Y4**	**Y 5**	**Y6**			
Results Area 2: **Improved policy, planning and M&E systems for water supply program for peri-urban areas**													
Intermediate Results Indicator 2.1: Improved policy for water supply program in peri-urban areas	☐	☒	Actions to improve policy	No specific water supply policy for peri-urban areas	Policy adopted by GoUK	Water connections policy implemented in at least 5 peri-urban areas	Volumetric tariff and water connections policies implemented in at least 5 targeted peri-urban areas	Volumetric tariffs and water connection policies implemented in at least 10 targeted peri-urban areas	Volumetric tariffs and water connections policies implemented in at least 15 targeted peri-urban areas	Volumetric tariffs and water connections policies implemented in all targeted peri-urban areas	Annual	Annual Report of SWSM	SWSM/SPSU
Intermediate Results Indicator 2.2: Strengthened M&E systems for water supply program in peri-urban areas		☒	Actions to improve M&E systems	Existing M&E system is limited in scope and does not cover per-urban areas	Define M&E needs and prepare implementation plan	Design of the M&E system	M&E system implemented in at least 10 peri-urban areas	M&E system implemented in at least 20 peri-urban areas	M&E system implemented in at least 30 peri-urban areas	Review implementation of the M&E systems and identify required changes and future needs	Annual	Annual Report of SWSM	SWSM/SPSU
Intermediate Results Indicator 2.3: Number of approved	☐	☒	No. of master-plans (cumulative)	0	0	1	2	3	3	3	Annual	Annual Report of SWSM	SWSM/SPSU

[17] This indicator would provide the average number of hours per day per household saved for female members of the household as a result of water connections.

master-plans for water supply in peri-urban areas													
Intermediate Results Indicator 2.4: Annual report on water services performance in peri-urban areas	☐	☐	Annual Report	No report on service performance			Annual report prepared and published	Annual report prepared and published	Annual report prepared and published	Annual report prepared and published	Annual	Annual Report of SWSM	SWSM/SPSU
Intermediate Results Indicator 2.5: Number of training programs for women to enhance their capacity for involvement in water supply program activities	☐	☐	Number of training programs (cumulative)	No training programs	5	10	15	20	25	30	Annual	Annual Report of SWSM	SWSM/SPSU

Annex 3: Disbursement Linked Indicators, Disbursement Arrangements and Verification Protocols
INDIA: Uttarakhand Water Supply Program for Peri-urban Areas

Table A3.1: Disbursement-Linked Indicator Matrix

DLI	Total Financing allocated to DLI (USD M)	As % of Total Financing Amount	*Indicative timeline for DLI achievement*						
			DLI Baseline	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
DLI#1: Number of Water Connections Providing Improved Water Supply Services in peri-urban areas	**48**	**40%**	Ya[18] 0 Yb[19] 0	0 0	10,324 0	51,622 10,324	92,920 61,946	103,244 154,866	103,244 258,110
Allocated amount for DLI#1 (USD million)				**0.00**	**3.36**	**14.02**	**16.32**	**8.54**	**5.76**
DLI#2: Sustainability of water supply service delivery in peri-urban areas	**39**	**33%**	0	7.40	25.90	55.50	96.20	96.20	96.20
Allocated amount for DLI#2 (USD million)				**0.76**	**2.68**	**5.74**	**9.94**	**9.94**	**9.94**
DLI#3: Improved policy for water supply program in peri-urban areas	**10**	**8%**	No specific WSS policy for peri-urban areas	Policy adopted by GoUK	Water connections policy implemented in at least 5 targeted peri-urban areas	Volumetric tariffs and water connections policies implemented in at least 5 targeted peri-urban areas	Volumetric tariffs and water connections policies implemented in at least 10 targeted peri-urban areas	Volumetric tariffs and water connections policies implemented in at least 15 targeted peri-urban areas	Volumetric tariffs and water connections policies implemented in all targeted peri-urban areas
Allocated amount for DLI#3 (USD million)				**2.00**	**3.00**	**2.00**	**1.00**	**1.00**	**1.00**
DLI#4: Strengthened M&E systems for water supply program in peri-urban areas	**13**	**11%**	Existing M&E systems limited in scope and do not cover peri-urban areas	Define M&E needs and prepare implementation plan	Design of the M&E system	M&E system implemented in at least 10 peri-urban areas	M&E system implemented in at least 20 peri-urban areas	M&E system implemented in at least 30 peri-urban areas	Review implementation of the M&E systems and identify required changes and future needs
Allocated amount for DLI#4 (USD million)				**1.00**	**5.00**	**4.00**	**1.00**	**1.00**	**1.00**
DLI#5: Number of Approved Master-plans for Water Supply in peri-urban areas	**9.7**	**8%**	0	0	1	2	3	3	3
Allocated amount for DLI#5 (USD million)				**0.00**	**3.23**	**3.23**	**3.24**	**0.00**	**0.00**
Front-end Fee	**0.3**	**0.3%**	**-**	**0.3**	**-**	**-**	**-**	**-**	**-**
TOTAL Financing Allocated (USD million)	**120**	**100%**		**4.06**	**17.27**	**28.98**	**31.50**	**20.49**	**17.70**

[18] Incidences of new connections providing improved water services
[19] Incidences of connections continuing to provide improved water services.

Table A3.2: DLI Verification Protocol

#	DLI	Definition/Description of Achievement	Scalability of Disbursements (Yes/No)	Protocol to evaluate achievement of the DLI and verification		
				Data Source	Verification Entity	Procedure
1	**Number of water connections providing improved water supply services in peri-urban areas**	A water connection would count toward achievement of the DLI in any year if it provides improved water service to customers (a single or multiple households, commercial and institutional customers). The DLI is calculated using two sub-indicators: (a) number of new water connections that provide at least three months of improved water service, and (b) number of water connections counted in the previous year that continue to provide improved water service. *Improved service* is defined as: • a minimum of 16-hours per day of continuous water supply • meeting GoI water quality standards • supplied at an average pressure of 12m • provided for no less than 300 days in a year, unless the service area is declared a disaster-affected area.	Yes	MIS Reports from UJN and UJS	IVA	The targeted (35) peri-urban areas in Uttarakhand will be considered for DLI #1. Operators (UJN and UJS) would be responsible for data collection in a timely and quality manner. This includes recording daily data on hours of service and pressure using data loggers installed at a minimum of 5-6 pre-determined points in the distribution network (depending on the size of system). Data logs shall be stored in an appropriate format for verification purposes and shall be made publicly available on the web-site of DDWS. Operators shall monitor physical, chemical and bacteriological quality of water at (i) source, (ii) distribution network and (iii) customer end in conformity with the standards of drinking water quality prescribed in IS 10500:2012, following guidelines provided in the Manual of Water Supply and Treatment, Ministry of Urban Development, GoI. Operator shall prepare operational performance reports on the number of water connections receiving an improved water supply service in any given year and the number of water connections continuing to receive improved water services in the subsequent year. The IVA shall verify the data reported by UJN and UJS including the timeliness, completeness, and quality of data collection, analysis, and dissemination. The verification methodology and minimum reporting standards are provided in the POM. The IVA would, among others, carry out a physical inspection to verify the reported number of connections based on a sample of 1% of reported connections per peri-urban system.
2	**Sustainability of water supply service delivery in peri-urban areas**	This DLI shall be measured as year-on-year increase of system sustainability using a composite index called the Total System Improvement (TSI) score. The TSI is the total of scores for each system ranging between 0 and 3.7, equivalent to the sum of scores of four sub-indicators: performance agreement, metering, O&M cost recovery, and customer satisfaction.	Yes	MIS Reports from UJS and UJN	IVA	The targeted (35) peri-urban areas in Uttarakhand will be considered for DLI #1. A peri-urban area can comprise one or more water supply systems. Scores for the sub-indicators would be assessed as follows: (a) A system would receive a score of 1 for the performance review if (i) a performance agreement between GoUK and UJN or UJS, or between UJN/UJS and a private operator exist, and (ii) a report on progress against the performance agreement is available by end October each year; (b) A system would receive a positive score for metering equivalent to percentage of metered connections, with a maximum score of 1.

						(c) A system would receive a positive score for O&M cost recovery equivalent to percentage O&M cost recovered, with a maximum score of 1. (d) A system would receive a score between 0 and 0.7 for customer satisfaction using five service attributes: (i) supply reliability; (ii) sufficient supply pressure; (iii) quality of water; (iv) responsiveness in approving new connections; and (v) convenience of bill payment process. Each operator shall collect and maintain data on sub-indicator (a), (b), and (c) and shall prepare annual operational performance reports for all water systems in targeted peri-urban areas. Reports shall be made publicly available on the DDWS MIS web-site within two months at the end of the year. The IVA would verify the TSI scores using two mechanism: • The IVA shall carry out a review of the robustness of the operator data on indicators (a), (b), and (c), including a desk review and a physical inspection of a sample of 2% of connections to confirm metering level. • The IVA shall conduct an annual customer satisfaction survey for each system to confirm level of customer satisfaction. The sample size would be sufficient to yield reliable information. The sampling methodology and the questionnaire of the customer satisfaction survey is defined in the POM.
3	**Improved policy for water supply program in peri-urban areas**	This DLI shall be measured as the level of adaptation and implementation of set of policy actions measured against targets set for each year of the program. Policy implementation would be measured as the number of peri-urban areas in which water connections policies and volumetric tariff policies are consistently applied.	No	SWSM/SPSU	DDWS Program Advisory Committee (PAC) and IVA	SWSM would prepare a policy that is consistent with the definition provided in Annex 2. The policy shall be considered adopted if the PAC approves it and it is published through a notification issued by DDWS. SWSM would prepare annual reports on application of key policy actions in the targeted peri-urban areas. The policy and annual reports shall be published through notification issued by DDWS. The consistent application of the water connections policy in a peri-urban area is defined as at least 80% of sanctioning and installation of connections are achieved within one month of request by the customers, and at least 80% of 'no water complaints' are redressed within 3 days of complaints filed by customers. The consistent application of the volumetric tariff policy in a peri-urban area is defined as 100% of issuance of customer bills as per latest notification of volumetric tariffs, and 100% of annual tariff increases are included in customer bills as per provisions of the policy.

						The Program Advisory Committee of DDWS would verify and approve the policy. The IVA would verify consistent application of the key policy actions in the peri-urban areas including cross check of data provided by the operator on the MIS web-site of DDWS.
4	**Strengthened M&E system for water supply program in peri-urban areas**	This DLI shall be measured as the level of definition and implementation of monitoring and evaluation systems for water supply in peri-urban areas using the following yardsticks: (a) presence of an implementation plan for a strengthened M&E system, (b) presence of information system to collect, analyze and report data, (c) number of peri-urban areas for which the M&E system is implemented, and (d) presence of an evaluation of the implementation process for M&E system through an annual report.	No	SWSM/SPSU	DDWS: Program Advisory Committee (PAC) and IVA	SWSM would define the M&E implementation plan, the design of the M&E system, and the annual reporting on M&E system implementation in the peri-urban areas. The requirements for the various reports and the minimum set of indicators to be used are defined in Annex 2. Annual Reports shall report on the minimum set of indicators and include a brief narrative on any performance shortfalls, lessons learned and an action plan to address the shortfalls and/or use the lessons to adjust GoUK's plans and approaches to peri-urban water supply The PAC would verify M&E system implementation based on information provided by SWSM, annual report, and cross-checks on MIS web-site of DDWS. The IVA would verify minimum indicators by cross checks on MIS web-site of DDWS.
5	**Number of approved master-plans for water supply in peri-urban areas**	This DLI shall be measured as the number of strategic long-term master-plans for water supply available for three identified growth corridors of Dehradun-Rishikesh, Haldwani-Kathgodam and Hardwar-Roorkee, In order to meet the DLI, a master plan needs to be approved by the GoUK and published through a notification issued by DDWS or any other competent authority. A masterplan should include: (i) a description and inventory of existing water systems; (ii) population projections, service area projections, present and planned land use, water demand projections; (iii) water supply quantity and quality projections and water resources requirements; (iv) improvements needed to meet future water demand; hydraulic modelling to estimate long-term needs with documentation of each option; (v) justification of selection of particular system improvement based on needs, cost effectiveness, constructability, reliability, operation, maintenance, etc.; (vi) recommended water supply improvements, wastewater and septage management in the short-term, medium term and long-term; and (vii) documentation of costs of the improvements. The plan should incorporate rural-urban linkages and include an analysis of institutional options for management and delivery of services. It should identify credible financing sources for priority investments.	Yes	SWSM	DDWS: Program Advisory Committee (PAC)	SWSM would prepare master-plans to meet future demand for the year 2030. The PAC would verify that the master-plans meet the requirements.

Table A3.3: Bank Disbursement Table

	DLI[20]	*Bank financing allocated to the DLI (USD million)*	*Of which financing available for* / *Prior results*	*Deadline for DLI achievement*	*Minimum DLI value to be achieved to trigger disbursements of Bank financing*	*Maximum DLI value(s) expected to be achieved for Bank disbursement purposes*	*Determination of financing amount to be disbursed against achieved and verified DLI value(s)*
1	**Number of water connections providing improved water supply services in peri-urban areas**	48	0	October 31 each year from 2018/19 to 2023/24	DLI value must be greater than zero	103,244 incidences of new connections providing improved water services **(Ya)** 258,110 incidences of connections continuing to provide improved water services **(Yb)**	Disbursements in any given year = (USD325 x Y_a) + (USD56 x Y_b) where: Ya = Number of new water connections installed in any year and providing at least three months of improved water services. Yb = Number of water connections installed in previous years and providing improved water services during the entire previous year. A water connection can only count towards Ya once, while it can count towards Yb in multiple years.
2	**Sustainability of water supply service delivery in peri-urban areas**	39	0	October 31 each year from 2018/19 to 2023/24	DLI value must be greater than zero	96.20 increases in total TSI score	Disbursements shall be based on the aggregate of all increases in the "Total System Improvement" (TSI) score. The TSI index is defined as [performance agreement rating] + [metering rating] + [cost recovery rating] + [customer survey rating]. For every unit of the TSI score achieved, an amount of USD 103, 000 may be made available by the Bank for withdrawal by the Borrower.
3	**Improved policy for water supply program in peri-urban areas**	10	0	October 31 each year from 2018/19 till 2023/24	DLI value must be greater than zero		• In Year 1, an amount of USD2 million may be made available by the Bank for withdrawal by the Borrower when DDWS adopts an improved policy for water supply services in peri-urban areas; • In Year 2, an amount of USD3 million may be made available by the Bank for withdrawal by the Borrower when DDWS demonstrates consistent implementation of key policy actions for the water connections policy in at least five (5) targeted peri-urban areas; • In Year 3, an amount of USD2 million may be made available each Year by the Bank for withdrawal by the Borrower when DDWS demonstrates consistent implementation of key policy actions for volumetric tariff policy and water connections policy in at least five (5) targeted peri-urban areas • In Year 4, an amount of USD1 million may be made available each Year by the Bank for withdrawal by the Borrower when DDWS demonstrates consistent implementation of key policy actions for

[20] The total allocation to the DLIs, targets, and unit payments are subject to adjustment at mid-term review.

							volumetric tariff policy and water connections policy in at least 10 targeted peri-urban areas • In Year 5, an amount of USD1 million may be made available each Year by the Bank for withdrawal by the Borrower when DDWS demonstrates consistent implementation of key policy actions for volumetric tariff policy and water connections policy in at least 15 targeted peri-urban areas • In Year 6, an amount of USD1 million may be made available each Year by the Bank for withdrawal by the Borrower when DDWS demonstrates consistent implementation of key policy actions for volumetric tariff policy and water connections policy in all targeted peri-urban areas.
4	**Strengthened M&E System for water supply program in peri-urban areas**	13		October 31 each year from 2018/19 to 2023/24	DLI value must be greater than zero	M&E system is implemented in all targeted peri-urban areas	• In Year 1, an amount of USD1 million may be made available by the Bank for withdrawal by the Borrower when SWSM defines M&E needs and develops an implementation plan for a strengthened M&E system. • In Year 2, an amount of USD 5 million may be made available by the Bank for withdrawal by the Borrower when SWSM has designed the M&E system • In Year 3, an amount of USD 4 million may be made available by the Bank for withdrawal by the Borrower when the M&E system is implemented in at least 10 peri-urban areas • In Year 4 an amount of USD 1 million may be made available by the Bank for withdrawal by the Borrower when the M&E system is implemented in at least 20 peri-urban areas • In Year 5, an amount of USD 1 million may be made available by the Bank for withdrawal by the Borrower when the M&E system is implemented in all 30 per-urban areas • In Year 6, an amount of USD 1 million may be made available by the Bank for withdrawal by the Borrower when SWSM has carried out an evaluation of the implementation process for M&E system and identified required changes and future direction.
5	**Number of approved master-plans for water supply in peri-urban areas**	9.7	0	October 31 each year from 2019/20 to 2021/22	DLI value must be greater than zero	3	An amount of USD 3.23 million may be made available by the Bank for withdrawal by the Borrower for each approved master-plan in year 2 and year 3, and USD 3.24 million in year 4.

Annex 4: Summary Technical Assessment

1. *Uttarakhand, like the rest of India, faces a trend of rapid urbanization.* Uttarakhand's average economic growth rate between 2004-05 and 2014-15 has been 11.6 percent and the state's urban population has grown by nearly 42 percent, which is substantially higher than the national average of 32 percent. The rural population has grown at over 11 percent during the same period, just below the national average of 12 percent. Peri-urban areas (represented by CTs) have increased from 12 in 2001 to 41 in 2011. In the past five years, 10 of the 41 CTs have been designated as ULBs.

2. *A large number of rapidly expanding peri-urban areas have emerged in various growth corridors.* The CTs collectively account for 500,000 people (2011) which is approximately 17 percent of the state's urban population. Many of these CTs have emerged in growth corridors and adjacent to a statutory town. In terms of concentrations, four distinct clusters have emerged: i) highway connecting Dehradun-Rishikesh (National Highway (NH) 72); ii) highway connecting Hardwar and Roorkee (NH 58); iii) highway connecting Haldwani-Rudrapur (NH 87); and (iv) along NH-125.

3. *The average population growth rate in peri-urban areas is double that of urban areas.* The population growth in peri-urban areas in Uttarakhand is significantly higher than the average urban population growth rate in the state. Out of 41 CTs in 2011, seven that had a population of 97,588 grew at a decadal rate of 90 percent or more; seven that had a population of 92,607 grew at a decadal rate of 60-90 percent; and 13 that had a population of 164,593 grew at a decadal rate of 30-60 percent. The growth has a non-predictable spatial characteristic, making planning more challenging.

4. *Although peri-urban areas have urban characteristics, they are primarily served by rural water supply schemes.* Over 75 percent of CTs rely on rural water supply systems, 10 percent on town/urban water supply systems and the remaining 15 percent on hand pumps. Forty percent of Hardwar CTs rely on hand pumps and the rest on rural water supply. Town water supply schemes are available only in two CTs of Udham Singh Nagar and in one CT each in Almora and Dehradun.

5. *Water supply services in peri-urban areas have remained neglected.* There has been no separate water supply program for peri-urban areas resulting in a lack of committed funding. A regional/district water supply masterplan to integrate planning in peri-urban areas with adjoining urban areas has not been developed. Although there have been WSS programs for urban and rural areas, peri-urban areas have been grouped with rural areas and therefore have not received high standards of service.

6. *Water supply services in peri-urban areas are below MoUD benchmarks for urban areas.* Table A4.1 outlines the water supply service delivery status in the CTs of Uttarakhand vis-à-vis MoUD benchmarks. The average water supplied in the CTs is 58 lpcd. Eighty-five percent of the CTs have a per capita water supply below 70 lpcd. The average residual terminal pressure is about 2 meters compared to the seven-meter norm in urban areas. None of the water supply connections in the CTs are metered. Based on annual billing collection as a percentage of annual billing demand, the efficiency in collection of water supply charges is 90 percent.

7. *Sanitation services*. Uttarakhand has recently achieved the state-wide open-defecation free status and people living in all CTs have access to a latrine facility. Seventy percent of the households are connected to septic tanks; 13 percent are connected to a piped sewer system; and the remaining 17 percent use pit latrines.

8. *Gaps in availability of WSS finances:* The estimated cost of the GoUK WSS program during the six-year period 2018-2024 is USD 477 million, which translates to USD 80 million per year. The average available funds are estimated at USD 49 million per year. There is a deficit of USD 31 million per year, mainly due to reduced financing under GoI programs. While funding is available for urban

WSS and rural WSS programs, the peri-urban water supply program is neglected with no dedicated financing, even though it is a priority program for GoUK.

Table A4.1: Water Supply Services in Census Towns

Water Service Delivery Indicator	Unit	Benchmark for Urban Areas MoUD, GoI	Uttarakhand Census Towns
Per capita Supply	Lpcd	135	38% : 20-40 lpcd 47% : 40-70 lpcd 15% : Above 70 lpcd
Daily Supply Duration	Hours	24	24% : 1-2 hours 71% :6-8 hours 5%: Above 8 hours
Residual Terminal Pressure	Heads in meters	Based on building: Single story - 7m Double story - 12 m 3 story building-17m etc. (Central Public Health & Environmental Engineering Organization (CPHEEO) Manual)	39%: 2-4 meters 56%: 5-7 meters 5%: Above 7 meters
Water Quality	Percentage of water samples that meet CPHEEO potable water standards	100	100
Metering of Water Connections	Percentage	100	~ 0
Efficiency in collection of water supply charges	Percentage	90	90

Source: Analysis of data provided by UJN for the year 2015-16

9. *Key institutions*: The key institutions involved in the WSS sector in Uttarakhand are:
   (i) DDWS is the nodal department responsible for WSS in the state.
   (ii) SWSM, set up under the DDWS, is the policy-making body for the WSS sector. It oversees the implementation of the rural sector programs and is responsible for sector monitoring and co-ordination. The WSS Organization (WSSO) under SWSM is responsible for carrying out Capacity Building, Water Quality, and M&E activities in the Rural WSS sector.
   (iii) UJN is primarily engaged in construction of water supply and sewerage schemes under different programs –both urban and rural.
   (iv) UJS is primarily engaged in carrying out functions of O&M of water supply and sewerage schemes handed over by UJN (both urban and rural).
   (v) Swajal, which was the nodal PMU for the implementation of the earlier World Bank assisted URWSSP, is responsible for implementing the SBM-Gramin and capacity building component of NRDWP.

10. *Structural issues in existing institutional arrangements*: There are structural issues in the existing institutional arrangements which result in inadequate sectorwide focus and diffused accountabilities:

- UJN is responsible for construction/asset creation, whereas UJS is responsible for operations and maintenance. Such an arrangement often leads to internal conflicts, including non-transfer of schemes on the grounds of financial non-viability, concerns of poor design and construction, etc. At the same time, there is no platform/mechanism for UJS to provide inputs/feedback into the design of any new scheme by UJN.
- Presently the DDWS focuses mainly on the Rural WSS sector. The Urban WSS projects are implemented under urban programs/schemes of the GoI and are administered through the Urban Development Department and the ULBs. Therefore, a consolidated view of the WSS sector in terms of planning, financing and performance monitoring is lacking.

- The SWSM has played an important role in promoting the SWAp in rural WSS sector in the state. However, the role has not evolved to include urban WSS programs. The segregation of roles between urban and rural therefore does not provide the necessary convergence for the entire WSS sector.

Technical and Institutional Assessment

11. A technical and institutional assessment of the key implementing agencies was undertaken based on a set methodology[21]. For each of the parameters analysed, the aim was to rapidly assess the situation in each organisation as compared to a well-run, mature water utility/organisation. The existing sector institutions have technically qualified staff for handling business as usual operations. However, there is significant scope for enhancing skills across various operational processes to meet the standards of an efficient well-performing utility. A detailed assessment of the two major sector institutions, the UJN and UJS, is given below.

a) *Assessment of Uttarakhand Jal Sansthan*

(i) *Review of Operations:* The UJS is responsible for operation and maintenance of water supply and sewerage schemes in both urban and rural areas of Uttarakhand. Of the 6,119 rural and 63 urban schemes under the DDWS, the UJS is managing the maintenance of 5,713 rural and 55 urban schemes. The total water produced by UJS in 2015-16 was about 1,000 MLD which has increased at a rate of 6.75 percent per annum in the past five years. The total number of water connections has increased by five percent per annum in the same period from about 4.93 lakhs connections in 2011-12 to about 6.02 lakhs connections in 2015-16. The percentage of water connections billed has remained high throughout this period, in the range of 96-98 percent. The average consumption per connection has remained in the range of 30-40 KL per month. In terms of billing, income from water charges has increased at the rate of 12 percent per annum from about INR 97 crores in 2011-12 to about INR 153 crores in 2015-16, indicating improvement in billing efficiency. The collection efficiency has been above 90 percent in the last five years. The cost of production of water per kilo-liter (KL) is INR 8.56, including electricity charges and INR 6.13 without electricity charges.

(ii) *Strategic Orientation*: The UJS's mandate is defined by the "UP WSS Act, 1975". The organization does not have a stated vision or a mission documented per se and its activities are driven by the provisions of the Act, specific directions of the GoUK, and requirements of various programs and schemes. The UJS operates in a mode similar to Government departments across the country. The organization prepares annual budgets which are more in nature of planned and non-planned financial revenues and expenditures. The UJS does not have a concept of a medium-term or a long-term business plan. The UJS can be rated at a basic level (level 2 on a scale of 1 to 5), as it has a short- term strategic orientation.

(iii) *Strategic Leadership:* The organization is headed by a "Chief General Manager", who is usually the senior most general manager and the position requires an engineering background with administrative experience in water supply and sewerage works. The above convention however limits the pool of talent to choose from. The Board composition of UJS has representatives of various stakeholder departments and local bodies and therefore has a strong influence within the GoUK. There are no independent management experts or representatives from other utilities

[21]Kayaga S., Mugabi, J., and Kingdom, W. (2013): 'Evaluating the institutional sustainability of an urban water utility: a conceptual framework and research directions'. Utilities policy, Vol 27, pp15-27. The methodology for institutional analysis focuses on (i) organizational behaviour; (ii) organizational structure; (iii) capability; and (iv) tools. For each of these areas analysed, the aim is to assess the situation in each utility and compare it against a well-run, mature utility in order to identify any gaps and issues to be addressed. Each indicator category has been rated against a level of maturity on a scale of 1-5. The assessment is based on interviews, observations, document reviews and interactions with key functionaries.

which can facilitate sharing of good practices at the Board level. The UJS can be ranked at a Level 2 in a maturity scale (on a scale of 1 to 5). It needs to have a broad-based leadership selection process, including a more diversified Board comprised of independent professionals to move up the maturity scale.

(iv) *Managerial Autonomy:* The governance structure in UJS is significantly influenced by the GoUK. While aspects such as tariff setting rest with the Board of UJS, with the GoUK providing concurrence. This in turn limits the ability of the UJS to chart out its financial viability roadmap. In addition, since water services have significant citizen engagement, there is an involvement of elected representatives and political influence at various stages of operation. This has an impact on prioritization of resource deployment and implementation of service delivery, which may not be based on operational merit. The technical and financial approvals for projects are delegated at appropriate managerial/divisional levels. UJS can be ranked at a level between 2 and 3 (on a scale of 1 to 5) in this aspect, as it has autonomy on day to day operations. However, critical aspects that impact its operational viability are determined by the Government or at a political leadership level.

Figure A4.1: Institutional Assessment of UJS

(v) *Customer Orientation:* The state has an "Uttarakhand Right to Service Act 2011", which stipulates the time commitment for provision of services, the concerned responsible officer and the appellate authorities. The Act also mentions the maximum time for sanctioning connections for water and sewerage services. In addition, UJS has a complaint redressal centre set up at Dehradun, which can be accessed via a toll-free number. Customers can also register their complaints on the website. The customer complaints are logged in the "customer relation management module" of the MIS system being operated by UJS. However, the UJS does not have a Citizen Charter of its own. Therefore, the customers do not have a minimum service level assurance for various service parameters, such as hours of delivery, minimum pressure, minimum quantity of water per capita, etc. There are no customer satisfaction surveys which capture the opinions of the end customer or their suggestions on the operations of the UJS. The UJS can be ranked at a level 3 on a scale of 1 to 5 on this aspect, as it does have a fairly well laid out system and has attempted to improve these systems in the past two to three years.

(vi) *Commercial Orientation:* Tariffs are finalized at the Board level of UJS. However, the approved tariffs are sent to the GoUK/DDWS for concurrence. This provides scope for control over tariff setting. Further no volumetric charges are levied as there are no metered connections. Thus, the agency is heavily dependent upon subsidies. Recognizing this fact, the government pays electricity costs and part subsidizes the high cost operations. The UJS does not have a mechanism for cost management, leakage management which can improve the commercial viability of the utility. The organization can be rated a level of 2 on a scale of 1 to 5 on this aspect, as the organization has a high collection efficiency, which indicates its underlying processes are generally sound.

(vii) *Organisation Capability:* The organization follows the Central Public Health and Environmental Engineering Organization (CPHEEO) manuals for water supply and sewerage. These are however not contextualized for higher levels of service delivery, e.g., 24x7 service. There is significant scope for strengthening and re-engineering the internal business processes of UJS. Specifically, data regarding assets, customers and associated costs and revenues are fragmented across the divisions of the UJS. There is a need for strengthening of databases on

usage profiles, population projections, demand projections, condition of assets, yield of sources, distribution network/connections, etc. This needs to be integrated with the UJN databases for better planning of services and schemes. The UJS has significant customer interface and undertakes all aspects of service delivery from supply of water to billing and collection of tariffs, grievance redressal, etc. The organization can be ranked at a level between 2 and 3 on a scale of 1 to 5 on this parameter. There is technical competence across different levels in the organization. Basic standard operating practices (SOPs) exist and there are some predictable breakdown/reactive maintenance practiced.

(viii) *Organisation Tools-Monitoring:* The UJS has a software system developed by the National Informatics Centre which aims to assist in monitoring and evaluation. The various modules of the system are personnel and payroll, court-case monitoring, message handling, pension management, water quality management, customer relationship management, resource management, materials and stores management, contract, tender and supplier information, office automation, billing and demand collection system, scheme and program management, finance and works accounting, and equipment information system. In addition, UJS updates the IMIS system of the GoI for schemes being implemented under NRDWP and the Swajal SIS for schemes implemented under the World Bank program. From an organizational perspective, monitoring is done mainly on the budgets prepared and on aspects of demand raised (billing) and collection. The organization can be ranked at a level of 2 on a scale of 1 to 5. The organization has developed an integrated MIS system comprising of different technical, financial and commercial modules. However, few modules are in use, and the organization continues to use excel based discrete systems for finance and accounting.

b) *Assessment of Uttarakhand Jal Nigam*

(i) *Overview of Operations:* UJN undertakes capital works and hands it over to UJS or any agency/authority, as appropriate, for operation and maintenance of the scheme. UJN and UJS have been implementing annually schemes worth INR 500 crores (USD 77 million) and INR 100 crores (USD 15 million), respectively, and have the capacity for the proposed program for peri-urban areas. The UJN currently does not have any commercial operations.

(ii) *Strategic Orientation:* The UJN's mandate is defined by the "UPWSS Act, 1975". The organization, like UJS, does not have a stated vision or a mission document per se and its activities are driven by the provisions of the Act, specific directions of the GoUK, and requirements of various programs and schemes that fund rural and urban water and sanitation. The UJN is required to prepare a statement of programme of activities every year along with a financial estimate, which is placed before GoUK for approval. The GoUK has the right to provide appropriate directives to the UJN on the programme. The annual budget is for projects that the organization plans to undertake or ongoing projects it has to complete. The UJN does not have a concept of a medium-term or a long-term business plan. The actual prioritisation of projects are often influenced by political priorities and announcements of intended schemes and hence the UJN has little space to plan out its activities in a systematic manner. The UJN can be rated at a level of 2 on a scale of 1 to 5, as it follows some basic plans which are approved by the GoUK.

Figure A4.2: Institutional Assessment of UJN

(iii) *Strategic Leadership:* The organizational head of the UJN is the "Managing Director" who is appointed by GoUK. The head is selected by a committee headed by the Chief Secretary for a

tenure of three years. Although it is possible for external candidates to apply for the position, normally the senior most Chief Engineer is appointed as the Managing Director. The Board composition of UJN is the same as the UJS and therefore has the same limitations. The UJN is also ranked at a level of 2 on a scale of 1 to 5. It does have strong technical managers. However, it needs to have a broader based leadership selection process and a more diversified Board comprising of independent professionals and representatives of other utilities.

(iv) *Managerial Autonomy:* The UJN essentially operates like a GoUK run organization. Various key decisions and approvals are made by the GoUK / DDWS. These include providing policy guidance on water supply, sewerage and drainage, appointment of senior officers, finalization and approval of programmes, any initiative to raise finances from the market, incurring expenditures in line with the approved programmes, etc. The UJN senior management considers political priorities for project design and execution, which may not necessarily be the most efficient operationally. The UJN can be ranked at a level of 2 on a scale of 1 to 5.

(v) *Organisation Skills:* The organization has the technical expertise and knowhow in planning, design, implementation and commissioning of schemes. It also has the expertise to maintain the assets and schemes until they are taken over by another institution. Thus, there is no dearth of technical capability in the institution. Nevertheless, the UJN has been executing traditional water supply schemes with intermittent supply. It does not have the experience in implementing schemes designed for 24x7 supply. It needs to enhance its design capabilities and strengthen the processes of preparation of DPRs. The organization has significant skills gaps in the areas of human resource management, commercial, finance and accounting, communication, etc. The organization has technical experience implementing different types of water supply and sewerage schemes in different terrains. It has prepared SOPs, essentially drawn from guidelines prepared by CPHEEO. The organization can be rated at a level of 2 on a scale of 1 to 5.

(vi) *Financial Performance:* The main revenue source for UJN is centage[22]. The total income from centage for UJN has increased in the last five years (2010-11 to 2015-16) from INR 52 crores to INR 110 crores. However, the expenditure has shown a lesser growth rate of 8.3 percent and has increased from INR 79 crores to INR 121 crores during the same period. The organization has operating deficits in recent years. When the deficit/gap increases beyond a range, the GoUK supports the UJN by increasing the centage rate (for instance in 2015-16, the centage was increased from 12 percent to 17 percent). In the future, the deficit may increase since the GoUK may not be in a position to continue increasing the centage. The centage is contingent upon the overall project cost and therefore there is a perverse incentive for the UJN to take up projects with higher costs to secure a higher centage.

(vii) *Organisation Tools:* The UJN has a software system developed by the National Informatics Centre which assists in monitoring and evaluation. The access to the system is internal and the monitoring of performance is mainly based on three key modules, i.e. personnel and payroll, financial report, and scheme management. The personnel and payroll module covers employee information and the financial report module covers bills and arrears details. The scheme management module covers information on scheme status, cost, sanction, release/expenditure date, start date, geographical scope, division, district, scheme type, etc. There is presently very limited analysis on the data collected. The organization can be rated at a level of 2 on a scale of 1 to 5.

12. Based on the assessments, the following challenges and gaps have been identified:

[22] Centage is the revenue earned by UJN for designing and constructing schemes, currently at the rate of 12.5% of the infrastructure cost.

- *Policy and Planning***:** There is a need to support the preparation of a water supply policy with a service delivery orientation and the preparation of water supply masterplans, especially for the rapidly expanding peri-urban areas. It is also necessary to strengthen the planning capacity of sector institutions using tools, strategies and partnerships, such as environment and social plans, baseline survey, DBO/PPP approaches, etc. Support is also needed for strengthening policies, programs, and processes related to professionalization of the sector institutions for service delivery orientation.

- *Institutional Strengthening*: Sector institutions need to be supported to improve organizational strengthening and accountability for service delivery. Specific support on functions such as human resource management, information, technology, and customer engagement may be considered. Institutions need to be reoriented to facilitate professional private sector players to participate, not only in engineering design and construction, but also in operations.

- *Capacity Building*: The sector institutions need support on soft skills, customer service orientation and delivery of outcomes. Aspects such as customer engagement, facilitating water connections, meter reading, billing, collection, consumer grievance redressal etc., need to be supported. Building technical capabilities to execute water supply schemes and achieving service delivery benchmarks, such as continuous pressurized water supply with metering and NRW reduction, also need to be supported.

- *Guidelines and Manuals for Implementing Agencies*: technical manuals that contain guidelines to plan, design, construct, operate and maintain water supply and sanitation facilities for improved water supply services are needed. In line with improved business practices, financial management manuals, procurement manuals, and IEC manuals are also needed.

- *An Integrated GRM* is needed to comprehensively capture complaints submitted at all levels across the entire scheme cycle. Citizen engagement programs, including citizen feedback mechanisms, need to be included in the program. This can be done through IEC/BCC activities, awareness building, public disclosure and dissemination of performance and service delivery achievements.

- *Monitoring and Evaluation*: A new strengthened M&E system needs to be developed for water supply program for the peri-urban areas. The complete scheme cycle from planning, implementation, O&M, service delivery, grievance redress and citizen feedback would need to be captured.

13. *World Bank Support to GoUK Water Supply Program for Peri-urban Areas.* The Program is designed to not only cater to specific water supply challenges in the peri-urban areas and but also to the larger objectives of institutional development and sector development for sustainable services through incentives and performance-based funding. The development objective for the Program is *to increase access to improved water supply services in peri-urban areas in Uttarakhand.* The GoUK's capacity would be strengthened through policy, planning, and monitoring and evaluation systems. The proposed six-year Program would focus on providing improved water supply services in peri-urban areas of Uttarakhand and would support the development of a service delivery-oriented water supply policy for peri-urban areas of the state, strengthening water supply planning processes for peri-urban areas, strengthening M&E system for water supply in peri-urban areas, and capacity building and professionalization of the sector institutions. It would provide much-needed focus on peri-urban areas and establish ways to respond to emerging challenges in the sector that can also potentially be adapted to the broader WSS sector in Uttarakhand and other parts of the country.

14. The PforR Program has two types of activities. Activity 1 is financed through performance-based grants for improving water supply services in the peri-urban areas, and Activity 2 is financed through financial incentives for strengthening policy, planning, and M&E systems for peri-urban areas. The Program can support studies and capacity building activities to strengthen technical and management capacity of the sector institutions.

Program Technical Soundness

15. *The Program addresses key sectoral and geographical equity issues.* The peri-urban areas in Uttarakhand provide an opportunity for the state to demonstrate consistent delivery of quality services, upgradation of operational practices, integrated planning, and O&M cost recovery which can be modelled for the rest of the state. The Program would focus on strengthening the planning process for peri-urban areas, build on the successes of previous projects particularly to strengthen the policy framework for the WSS sector in the state, build institutional capacities and develop monitoring and evaluation systems to sustain interventions. The Program would focus on providing higher service levels in peri-urban areas, 100 percent metering, NRW reduction, water audits, exploring models involving the private sector for O&M, etc. The Program would help the GoUK in directly tackling the issue of uneven access to drinking water and sanitation services in the peri-urban areas, which contribute to high health costs. The Program would also address the needs related to fiduciary, environmental and social systems of WSS sector institutions. Improving these systems would enhance efficiency and transparency in fund flow, procurement, and environmental and social sustainability measures, and improve service delivery performance.

Program Institutional Arrangements

16. *The Program is designed to build on the existing institutional structures*. The Program's implementation responsibility is based on experience in similar projects in the past, as well as existing capacity of the sector institutions. The institutional and implementation structure for the proposed UWSP would be embedded within the existing WSS structure in Uttarakhand. DDWS would continue to be the nodal agency responsible for implementing urban and rural sector WSS programs across the state and it would also be responsible for the implementation of UWSP. UJN and UJS, under the aegis of the DDWS, would be responsible for implementing the Program. A SPSU would be established at the state level to coordinate all project activities under the SWSM. It is envisaged that the SWSM would expand its policy guidance and advisory role from a focus on rural areas to one that includes urban and peri-urban WSS sectors as well. A Program Advisory Committee would be constituted to achieve better convergence with ongoing programs and to enhance intra-institutional coordination. The implementing agencies would set up PIUs at the headquarter level and FIUs at district/division levels. The PSU would co-ordinate with the PIUs and the PIUs would oversee the FIUs.

17. *Professionalization of sector institutions is a core element of the program*. Sector agencies are currently functioning more as government departments rather than autonomous water utilities. Thus, there is scope to strengthen their functions and provide them with more functional and financial autonomy. As there will be an increase in the number of contracts managed by sector institutions and customer interactions, functions such as accounting and finance, information technology, human resources, and legal and vigilance aspects would be strengthened under the Program. To address the larger trend towards outsourcing and private sector participation (in construction as well as operations), skill sets related to contract management, and PPP procurement would be strengthened. The Program components also support building capacities within these institutions. Some of the key gaps that would be addressed include capacity to design and deliver improved service delivery in peri-urban areas, operational guidelines for improved Program delivery, integrated M&E systems to monitor outcomes, processes, service delivery, expenditure and sustainability of the sector.

18. *Enhancement of institutional accountabilities through performance agreements.* The technical and institutional assessment found that the implementation agencies had weak accountability systems for various stakeholders, including Government, consumers and other sector institutions. Therefore, the Program would introduce accountability of the implementing agencies (UJN and UJS) through formal performance agreements between the DDWS and UJN/UJS, clarifying the responsibilities of the implementing agencies in design, construction and O&M stages of the schemes to: a) achieve the DLIs of the Program; b) meet the urban service level benchmarks recommended by the GoI; and c) the cost budgets of the Program.

Program Expenditure Framework

19. *Fiscal sustainability of the state is sound.* There are 10 states in India, including Uttarakhand, that are considered 'special category' by GoI based on the need for improving growth and development. Of these, in the past decade, Uttarakhand has the second highest rate of growth, after Sikkim. Uttarakhand enacted the state Fiscal Responsibility and Budget Management (FRBM) Act of October 2005. Since then, the revenue deficit of 2.1 percent during 1998-2005 (pre FRBM enactment period) has improved to a revenue surplus of 0.7 percent during 2006-13 (post FRBM enactment period). The state has decreased the gross fiscal deficit from 4.7 percent to 2.7 percent and primary deficit from 2.2 percent to 0.6 percent during the post-FRBM enactment period. Uttarakhand has performed strongly in terms of fiscal consolidation by meeting the targets as recommended by the FRBM Act of 2003. Uttarakhand's debt as percentage of GDP during 2011-15 has averaged around 25 percent, below the annual average target recommended of around 40 percent. WSS is amongst the top five in terms of proportion of planned development expenditure and seventh in non-planned development expenditure. The proposed Program cost of USD 150 million over 6 years (medium term) would cater to the requirements for water supply improvements under priority 1 peri-urban areas. It is 48 percent of the likely average annual GoUK fund availability in the WSS sector.

TableA4.2: GoUK WSS Medium Term Program

Components	Fund Requirement (2018-24)	Funds Available (2018-24)
Urban Water Supply	USD 110 million	USD 85 million
Urban Sanitation	USD 72 million	USD 63 million
Rural Water Supply	USD 135million	USD 110 million
Rural Sanitation (SLWM)	USD 10 million	USD 5 million
Peri-urban water supply	USD 150 million	USD 30 million
Peri-urban sanitation	USD 0 million	USD 0 million
Total	**USD 477 million**	**USD 293 million**

20. *GoUK Medium-Term Expenditure Framework (2018-24).* Uttarakhand has an estimated investment requirement of USD 477 million for achieving universal coverage for water supply and sanitation across the state in the medium term. This indicates an annual requirement of USD 80 million. The average annual availability for medium-term expenditure is anticipated to be USD 49 million. The annual gap estimated for investments is around USD 31million per year. The investment requirements and availability in the medium term are outlined in the table A4.2.

Program Results Framework and M&E

21. The Program has two results areas to reflect achievement of the PDO. Result Area 1: Increased access to improved water supply services in peri-urban areas; and Result Area 2: Improved policy, planning and M&E systems for water supply program for peri-urban areas. Within these results areas, the Program has intermediate results indicators, consisting of DLIs and other results. All these together would help to measure the outcome of the key Program activities. The five DLIs form the basis for disbursement of funds under the World Bank PforR operations.

22. *The results framework of water supply program is comprehensive and sound, however, sector reporting and monitoring is a challenge.* Different entities have different MIS systems and hence an integrated sector information for both rural and urban areas is not available. Thus, sector wide monitoring is not possible. To bring in a results-oriented approach in the sector, a new strengthened M&E system would be developed for peri-urban areas under the Program. The main function of the M&E system would be collection of data on the Results Areas and the DLIs, as well as Intermediate Results Indicators. Using an appropriate mix of software and applications, the MIS would be designed to collate real time data on the pre-project baseline situation, existing schemes and progress, intermediate processes, and outputs. The monitoring system would also record data on processes, service delivery, contract management, institutional performance, operations and management, and grievance redressal. It would be linked to appropriate monitoring software for tracking receipts and expenditures and include features such as HR management systems, payroll, office automation, SMS alerts, uploading project related documents into the cloud/web for improving transparency.

23. The SPSU and the PIUs would be responsible for feeding data into the monitoring system. FIUs would be responsible for collecting the baseline information and the scheme-based progress data. As part of the Program, the M&E capacity of all implementing agencies would be enhanced through relevant training.

24. *The results under the program would be periodically monitored*. Performance assessments would be conducted by SWSM/SPSU on a periodic basis, including service delivery assessments, construction quality surveillance to check implementation quality of WSS schemes, and technical and financial audits to confirm and validate technical aspects and expenses incurred for the schemes under the Program. The results would be verified annually through and Independent Verification Agency.

25. *The GoUK and the World Bank would undertake periodic review meetings* to assess progress, identify gaps and issues, propose remedial measures and identify measures to scale up success stories across the state. The reviews would identify any potential non-achievement of DLIs and the need, if any, for restructuring the Program to achieve the results of the Program.

Financial Analysis of the Program

26. *Cost of services*: The cost of services estimated by SWSM is based on operational expenditures, including electricity costs for water supply, direct costs incurred for operations and maintenance for water supply services, and the UJS overheads allocated to the peri-urban areas. However, given that the service providers do not have ringfenced accounting for the peri-urban areas, it is hard to estimate the true cost of service delivery.

27. *Revenues*: Revenue data are available for 26 of the peri-urban areas covered under the Program. For these peri-urban areas, the average coverage is 45 percent. Due to lack of metering, there is no data on consumption. SWSM reports consumption at 35 lpcd based on recent surveys. Water availability at source is 98.3 litres per capita per day. Consumption is estimated at 59 litres per capita per day based on an estimation of 40 percent of non-revenue water. Households were charged a fixed monthly tariff of USD 2.4 per connection per month in the year 2016-17. The collection rate is 90 percent. This translates into a revenue realized per KL of USD 0.27.

28. Cost recovery of operations and maintenance expenditure (excluding depreciation) is 86.2 percent (2016-17), much higher than the cost recovery at overall UJS level of 53.3 percent. This is considerably above the USD 0.11 / KL tariff applicable for metered connections as per the tariff schedule (2016-17) and a small fixed cost of USD 0.18 per month for rent of meters. In effect, the practice of fixed monthly charges and low water availability is yielding a higher revenue per KL for UJS at present.

Table A4.3: Summary Financial Analysis

		Projections			
Parameter	**2016-17**	**2020-21**	**2021-22**	**2022-23**	**2023-24**
Coverage	45%	60%	65%	68%	70%
LPCD (consumption)	59.0	135	135	135	135
Volumetric tariff for urban areas (USD/KL)	NA	0.20	0.22	0.24	0.27
Collection efficiency	90.0%	90%	91%	93%	95%
O&M Cost recovery (excluding depreciation) with 100% metering and volumetric tariff	86.2% (fixed monthly tariff)	101%	104%	110%	115%

29. *Projected financial situation after the project:* The Program would help the service providers to reach full cost recovery for O&M. For projected performance, revenues and costs from non-domestic supply have not been considered due to lack of data and therefore the cost recovery projections are conservative. With the Program, the coverage would improve from current levels of 45 percent to 60 percent in 2020-21 and to 70 percent in 2023-24 and urban standards of service would be provided, i.e.135 lpcd supply for a minimum of 16 hours at 12m pressure. Collection efficiency is assumed to improve gradually to 95 percent in the year 2023-24. With the introduction of 100% metering and volumetric tariff, cost recovery will improve from 86 percent (excluding depreciation) in the year 2016-17, to 101 percent in the year 2020-21 and to 115 percent in the year 2023-24. This is based on annual escalation of 10 percent in volumetric tariff which is conservative compared to the existing tariff structure which provides for an annual escalation of 15 percent. The analysis considers electricity subsidy provided by the GoUK as per stated policy. In a stress case scenario, if the tariff increases were to be moderate at 8 percent per annum, operating costs increase by twenty five percent and consumption is at 100 litres per capita per day, the cost recovery in the year 2023-24 would fall below current levels to 81 percent.

30. Financial Internal Rate of Return (FIRR) has been calculated for the entire Program. The operating surplus (O&M revenue less O&M expenditure including GoUK subsidy for electricity expenditure) has been taken as cash inflows. The capital expenditure over the Program duration (USD 150m) has been taken as cash outflow. The financial internal rate of return calculated till the period 2047-48 is 1.1 percent.

Program Economic Evaluation

31. *The Program has a strong economic rationale, with significant benefits on health and productivity.* The Economic Rate of Return (ERR) for the program is estimated to be 14.5 percent and the benefit-cost ratio is estimated to be 2.5. The discount rate or the opportunity cost of capital is taken as 10 percent for India. A summary analysis is presented below.

32. The cost-benefit analysis of the proposed Program has been carried out for a representative household survey covering 2000 households in the targeted peri-urban areas. Based on the survey data and secondary sources of information, the following benefits have been quantified:

(i) *Time saved in water collection.* Time saved per household is based on the analysis of household survey data and baseline information provided by GoUK. Households currently spend time for collecting water through hand-pumps, bore-wells, tanker supply, etc. The expected time savings in water collection per household ranges from 30 minutes to 55 minutes per day depending upon the source of water and terrain. The opportunity cost of labor is assessed as the wage rate of USD 6.15 per day obtained from the household survey.

(ii) *Benefits from incremental water supply.* The benefits from incremental water is estimated as the difference between the designed supply up to 135 lpcd and current piped water supply of 35 lpcd. The incremental water available due to the Program is valued at USD 0.41 per KL, as a combination of willingness to pay and affordability of households, based on household survey and affordability estimates. This reflects the value of additional water to the households of the peri-urban areas.

(iii) Health benefits from improved water supply. The improved water supply services will result in health benefits[23] due to reduction in several diseases associated with existing poor quality of water. This analysis considers benefits related to reduction in diarrhoeal disease as a conservative estimate, valued as follows: (a) value of person days lost and expenditure incurred for treatment of diarrhoea; and (b) value of DALY. The person days lost are taken as three days per incidence, with 7% households affected per year. DALY is a summation of years lost due to disability (YLD) and premature mortality (YLL), obtained from WHO estimates (2012). YLL is considered for the analysis, ranging from 2% to 50% reduction from second year onwards of the Program. Data for above has been obtained from the household survey, discussions with health professionals, and WHO estimates.

Table A4.4: Summary Economic Analysis

Summary Economic Benefits		
Benefits	**Estimated Benefits (USD million)**	**Percent**
Opportunity cost of time saved	329	61%
Value of incremental water	187	35%
Opportunity cost of reduction in person days lost and reduction in treatment cost due to diarrhoea	9	2%
Opportunity cost of reduction in DALYs	12	2%
Total benefits	**537**	**100%**
Summary Economic Costs		
Costs	**Estimated Costs (USD million)**	**Percent**
Program Cost (Capex)	150	67%
Operational Expenditure (Opex)	75	33%
Total Costs	**225**	**100%**
Economic Rate of Return		
State	**ERR**	**Benefit Cost Ratio**
Overall Program	14.5	2.5
Sensitivity Analysis		
Criteria		**ERR**
Base Value		14.5
Increase in costs: 10% increase in total cost		12.5
Decrease in benefits: 10% decrease in benefits		12.3

33. The analysis includes capital expenditures and O&M costs for the period 2018-48 obtained from GoUK. The capital expenditure is taken as USD 150 million and O&M expenditure is taken as USD 0.11 per KL of water supply. The capital expenditure is suitably phased across the six-year period to achieve the envisaged Program outcomes. The O&M cost is extrapolated to the period 2048 for the analysis.

34. Sensitivity tests based on assessed risks indicate that the Program can absorb negative impacts and still generate an acceptable ERR. The ERR is a conservative estimate since benefits that are harder to quantify were not included in the computation, example benefits from strengthening of policy, planning and M&E systems, citizen engagement and grievance redressal programs.

[23] WHO (2012): Quantifying health impacts at national and local levels

Annex 5: Summary Fiduciary Systems Assessment

Fiduciary Risk Assessment

1. The Program's fiduciary system provides reasonable assurance that the financing proceeds would be used for the intended purposes, with due attention to the principles of economy, efficiency, effectiveness, transparency and accountability, taking into consideration the system strengthening actions. The IFSA was carried out to assess whether the fiduciary system and performance are adequate to provide reasonable assurance that the funds would be used for the intended purposes and based on the assessment, the combined fiduciary risk is rated as "Substantial".

2. The IFSA covered fiduciary arrangements in all key entities[24] that would be involved in the Program (SWSM, UJN, UJS). It is noted that fiduciary arrangements in these sectors are guided by several rules and legislations: state financial rules (treasury rules, financial handbooks, Budget Manual 2012); the Uttarakhand Procurement Rules 2017; PWD Manual; Store Purchase Rules etc., and therefore, reasonably well established. The existing governance and accountability arrangements include audits by the Comptroller and Auditor General (C&AG) of India, review of audit reports by Public Accounts Committee, The Uttarakhand Right to Service Act 2011, Right to Information (RTI) Act 2005, Uttarakhand Prevention of Corruption Act 1988, and CVC Act 2003.

3. Some of the key issues highlighted by IFSA are:

- *Procurement*: (i) non-availability of SBD for goods, works and services, (ii) lack of dedicated procurement staff and segregation of duties in PIUs, (iii) possible barriers for contractors imposed by mandatory registration of contractors by respective PIUs, (iv) lack of procurement complaint handling mechanism, (v) lack of procurement MIS including contract management, and (vi) lack of standards for disclosure of awarded contracts.
- *Financial Management*: (i) ad hoc planning and budgeting without prioritization of schemes, (ii) delay in release of funds, (iii) lack of FM staff capacity in UJN and UJS, and (iv) accounts maintained manually and delay in finalization of entity audits.
- *Governance and Accountability system:* (a) no vigilance systems operating below the state level (i.e. within line agencies), (b) lack of a complaints-handling system in the context of procurement and financial management, (c) lack of verification, oversight systems, and (d) non-inclusion of fraud and corruption clauses in standard bidding documents.

Procurement Exclusions

4. It is envisaged that procurement would be decentralized and would be implemented by PIUs and FIUs under the overall guidance of the SPSU. Procurement would largely involve civil works which would be implemented by PIUs while capacity building and procurement of services would be carried out by SPSU. Some of the civil works would be carried out using the DBO model contract, subject to the outcome of feasibility study. However, it is envisaged that there is no high value contract exceeding OPRC threshold[25] values that would qualify for procurement exclusions.

Scope of Integrated Fiduciary System Assessment

5. IFSA was carried out to evaluate the arrangements relevant to the Program and to determine whether they provide reasonable assurance that the Program funds would be used for their intended

[24] The overall fiduciary performance rating for the most recently closed project was in the range of MS or S in the last 3-4 years of implementation, and all three agencies adhered to the fiduciary requirements of the Bank.

[25] OPRC threshold value is as follows: (1) works (including turnkey, supply and installation of plant and equipment, PPPs), estimated to cost USD75,000,000 equivalent or more per contract; (2) goods, information technology and non-consulting services, estimated to cost USD50,000,000 equivalent or more per contract; (3) consultant services, estimated to cost USD20,000,000 equivalent or more per contract.

purpose. The institutional and implementation structure of the Program would be embedded within the existing WSS structure in Uttarakhand. The SWSM under DDWS would continue to be the nodal agency responsible for implementing this project. The key sector institutions, UJS and UJN, under the aegis of DDWS would be responsible for implementing the Program in the field. IFSA covered all the implementing agencies envisaged in the Program. The IFSA covers the following:

(a) *Procurement arrangements:* Regulatory Framework; Procurement Planning; Staffing; e-procurement system, capacity of bidders and staff at the line agencies; Standard bidding document; Registration of bidders; Existence of complaint handling and resolution system; Procurement performance; Ethics - (Existence of undertaking); PPP policies; Existence of MIS; Procurement documentation and audit; Preference to category of bidders; Study of operating manual of line agencies, etc.

(b) *Financial Management*

- *Planning and Budgeting:* Budget Vs Expenditure; Budget utilization; Basis of selection of schemes, i.e. prioritization of schemes; Prevention of overlapping of schemes; Transparency;
- *Fund Flow:* Fund Flow Mechanism; Process of receipt of fund; Utilization certificates; Delegation of authority; Fund Management; Timeliness of utilization of funds;
- *Accounting, financial reporting and internal control:* Process of compiling accounts and preparing Financial Statements; Accounting system being used; Current staffing structure including minimum qualification required; Adequacy and capacity of staff; Responsibilities of accounts department; Time lag in preparation of Financial Statement; Existence of segregation of duty; Existence of Fixed Asset Register and physical verification of assets; Record keeping;
- *Audit-Internal and External:* Entities responsible for auditing line agencies; Existence of internal audit cell; Resolution of audit observations; Time lag in conducting audit

(c) *Governance and Accountability:* Vigilance function at entity level; VE for the State of Uttarakhand; Organization structure of VE; Functions of VE; Types of complaints that can be registered at VE; Mode of complaints; Annual data of investigation undertaken; Duties of agencies w.r.t fraud and corruption; and Awareness about the VE.

Review of Public Financial Management Systems

6. The review of public financial management cycle is presented below.

(i) Planning and Budgeting

Adequacy of budget

7. Uttarakhand has categorized its WSS schemes under 27 major and minor heads, of which 24 are under the state sector and three under the district sector. In addition, there are several centrally sponsored schemes, including NRWDP, Drought Relief Fund, Ganga Action Plan Phase II, Urban Sewerage, Mega Water Supply Schemes, Information/Computerization of Water Sector, and various externally aided projects, including the World Bank-supported URWSSP (2006-15) and the ADB-supported USDIP. The state sector covers outlays in rural water supply, urban water supply and sewerage, Minimum Need Programme, Ganga and Yamuna Action Plan, source augmentation and sustainability, hand pumps and others. The district sector covers outlays under three heads: augmentation, re-organization of water supply and hand pumps; augmentation, re-organization of water supply and maintenance of water supply schemes. The funding for the Urban WSS central sector schemes is channelled through the UDD and funding for the Rural WSS central sector schemes though the DDWS. The state and district sector schemes, covering both urban and rural areas, are reflected in

the budget of DDWS. While the funding under the erstwhile World Bank programs has been through the DDWS, the ADB funding is either through the UDD or directly through a Special Purpose Vehicle (SPV) created for the implementation of a program. Thus, the budget of DDWS does not comprehensively reflect the spending in the WSS sector.

8. GoUK and the implementation agencies have budget and expenditure management systems and practices in place. There are, however, some challenges in the existing practices that need to be streamlined. The budget is constrained based on availability of funds and the overall FRBM targets. Even though the allocated budget is on the higher side, it is not always released on a timely basis and is sometimes curtailed at year end. Even though the finance department allocates the budget, DDWS releases it in tranches, which can affect progress. If the releases are made close to the year end, the department is unable to complete the schemes in a timely manner. This occurs both for central and state schemes. Sometimes schemes are partially funded, which affects progress. The average releases against sectoral budget is 60 percent while the expenditure is 80 percent as the agencies use their opening balances. Table 5.1A presents the budget and releases for the sector institutions.

Table A5.1: Budget and Releases for Sector Institutions

	Opening Balance	Budget	Release	Expenditure	Closing Balance	Release	Expenditure
2015-16 USD million	82	131	81	135	28	62%	83%
2016-17 (up to Dec) USD million	28	127	82	89	21	64%	81%

Budget Execution and Absorptive Capacity

9. As the Program would add about 20 percent additional funds to the existing budget, it is expected that the sectoral entities have the required absorptive capacity. During the last Bank-supported project, an annual sum of about USD 15-20 million was added to the overall budget and was absorbed by the relevant agencies. However, in the last two years there has been cash rationing and a reduction in releases. Thus, only 60 percent of the budget has been released. In addition, late releases have affected the overall expenditure.

10. Program system: At the beginning of the FY, a lump sum transfer from the state budget to SWSM would be completed A legal covenant would be added such that GoUK ensures the transfer of the funds to SWSM to implement Program activities.

Planning and Budget Preparation

11. Existing system: These entities follow the budget calendar and process of the GoUK. It was noted that the planning and budget preparation is done on an incremental basis rather than on schemes. There is no medium-term budgeting, which then hinders having a long-term view on budgeting for the sector. There is no prioritization of schemes, which leads to distortion in coverage. Cost and time overruns affect the planning and budgeting cycle and requirements.

12. Program system: For the Program, SWSM would plan as per the budget calendar and consolidate the entire budget. SWSM would also propose the budget to the DDWS, which would then be included in the yearly budget cycle. A medium-term budget would be developed and agreed on with the relevant departments. A program MIS to track the schemes initiation and completion and link these with the budgeting system would also be developed.

Budget Allocation

13. Existing system: The budget is allocated under various heads, including the State plan, District plan and Central Schemes.

14. Program system: A dedicated budget head would be created by the state through which funds would be allocated for the implementing agencies. A G.O. detailing the Program guidelines has been issued.

Procurement Planning

15. As per Uttarakhand Procurement Rules 2017, the competent authority should prepare on an annual basis, a procurement plan based on a forecast of future requirements of goods, services and works. However, as per IFSA report, there is no system of procurement planning and linkage to budget in the identified agencies. All procurements are carried out based on availability of approved budget. This system poses a risk of inaccurate budget estimation and demand for funds. In addition, there is no checks over utilization of funds for the intended purposes leading to ineffective allocation of funds. Therefore, as mandated by Procurement Rule, all PIUs shall prepare procurement plan with details of quantity, time schedule for award, cost estimate which is linked to budget on annual basis and make it available on project website at all times throughout the program.

Procurement profile of the Program

16. Through this program, Bank's support would focus on two areas of activities: (i) improving water supply services in peri-urban areas; and (ii) improving policy, planning and monitoring of water supply program across the peri-urban areas of the state using PforR instrument.

17. The implementation of Activity 1 falls under DLIs #1 and 2 and would be implemented by UJN and UJS. There are 35 peri-urban areas identified under this program. Infrastructure development in 25 peri-urban areas would be taken up by UJN while UJS would take up remaining 10 areas. Procurement under Activity 2 would include construction of new water supply schemes and or rehabilitation, expansion and strengthening of existing infrastructure. Some of the activities are augmentation/improvement of water sources; construction, rehabilitation, augmentation and extension of water treatment, storage and pumping; transmission and distribution and associated network fixture; rehabilitation and metering of existing/new house connection. While most of the procurement activities would be conducted using conventional approach (item rate contract), procurement of some water supply schemes would be done through DBO model. It is expected that size of the contract would range from USD 3 to 10 million. The respective PIUs shall conduct feasibility and accordingly prepare their procurement plan.

18. Procurement activities under Activity 2 (DLIs# 3, 4 and 5) mostly comprise capacity building actives for improving policy, planning and monitoring of water supply program across the peri-urban areas. Procurement activities would include procurement of consultant services for development of service-oriented water supply sector policy, preparation of water supply master-plan for peri-urban areas, strengthening program governance and accountability mechanism, capacity building program for the PIUs to improve operations, management of the water supply systems to provide improved water supply services, and strengthening the procurement, financial, and technical capacity of the PIUs.

(ii) Budget Execution

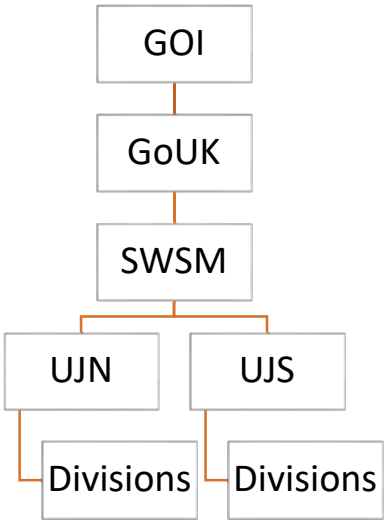
Fund Flow

19. Existing system: All these entities have bank accounts and the funds from the government budget are transferred to these accounts. These entities operate separate bank accounts for schemes such as NRWDP.

20. Program system: A separate bank account would be maintained for the Program at the entity level. The entire program funds would be transferred to SWSM at the beginning of the year. Based on the annual work plan and requirements of the implementing agencies, SWSM would transfer the required amounts to UJN/UJS/ Head Offices. These funds would further be transferred to the divisions

as required. The divisions of UJS and UJN would use these funds as the end users of the Program. A schematic diagram of fund flow is provided below.

Figure A5.1: Fund Flow



21. The GoUK, through its budget, would transfer the funds to the sector institutions and would pre-finance the expenditure. The state would provide its share of USD 30 million as upfront amount in the first two years to fund the activities and start work in the field. The state would claim disbursements[26] from the Bank as the DLIs are achieved. The funds for the Program are expected to be spent by the sector agencies SWSM, UJN, and UJS and not expected to be transferred further to the communities.

22. On financial flows, Bank disbursements on all DLIs would flow to GoUK. Amounts received against DLI#1 and DLI#2 would be transferred to the sector institutions based on their performance. These amounts would be transferred on a back-to-back basis to maintain the liquidity and ensure further activities are being carried out. Funds for DLI#3, 4, and 5 would be retained by GoUK at DDWS/SWSM level since DDWS is responsible for these DLIs. Amounts under these DLIs can be used for funding program expenditure. The first tranche could be transferred without conditions by the FD. However, for subsequent tranches the DWSS would be required to submit utilization certificates of expenditure to the FD. The threshold for utilisation certificate is kept at 60 percent of the earlier releases as per the state General Financial Rules. The above requirements have been incorporated in the GO for the program.

23. Any advance from the Bank could be adjusted or rolled over till the end of the Program for final adjustment. The disbursements under the DLIs would be compared with Program expenditures in the last year of the Program and a refund would be sought if DLIs paid are more than the Program expenditures. Any other sources of financing must be deducted from the calculations. This is in line with the PforR FM guidelines where the DLI amount disbursed would be compared with the program expenditure.

Accounting Systems and Financial Reporting

24. Existing systems: SWSM follows accrual based accounting. The accounts are fully computerized and reports are generated using the Tally software. UJS and UJN follow manual

[26] If there is any advance with the Bank, either it could be adjusted or rolled over till the end of the project for final adjustment.

accounting for some schemes and computerized accounting for others. Scheme-wise manual records are maintained. For some schemes, such as NRDWP, UJN and UJS first record data manually in their books of account and then enter the same data in Tally. In some divisions, the agency staff are responsible for entering information in Tally and in others, this activity is outsourced. At the headquarters, agency staff collate all manual reports and a CA firm is hired to compile and prepare the entity's financial statements.

25. Program system: Accounting system across all entities would be computerized. The Program accounts would be maintained in Tally and SWSM would compile the accounts using the current method employed for NRWDP. The entire accounting of UJN and UJS would also be computerized, based on the revised accounting manual. The Program would include relevant trainings and capacity building activities to support this. Monthly reporting of the expenditure would be done by FIUs to the PIUs within 10 days from month end. The PIUs would consolidate the expenditure and submit the reports to SPSU within 15 days from month end. SPSU would compile the report based on the field reports within 20 days from the month end. These reports would be used for internal monitoring purposes.

Procurement processes and procedures

26. Procurement process and procedures in Uttarakhand is guided by Uttarakhand Procurement Rules 2008 (updated 2017) for procurement of goods, works and services. The principles of procurement enshrined in the Procurement Rules 2017 provides reasonable assurance for value for money. Procurement is decentralized and is conducted through e-procurement portal available at https://uktenders.gov.in/nicgep/app above certain thresholds[27] as determined by the government through GO from time to time.

27. Non-availability of SBDs: as per the Uttarakhand Procurement Rules 2008 (updated 2017), the implementing agencies should use SBD for procurement of goods, works and services. As per the IFSA report, there is no SBD in Uttarakhand. Every agency has their own SBD which lacks uniformity on bidding and contractual terms and conditions thereby leading to inconsistency in application of essential contractual terms and conditions. In view of this, the SWSM/SPSU would develop SBD for goods, works and services for the Program and shall be used by all the PIUs uniformly. The IFSA has also noted that Procurement Manual developed by UJN is quite comprehensive and the PIUs may adopt the use of this Manual across the program. The government will issue GO to this effect.

28. Registration of Contractors: Uttarakhand Procurement Rules 2017 mandates registration of contractors. However, in absence of a single entity that does registration, the respective agencies do contractor registration separately with the qualification requirement specific to their needs. These requirements may possibly act as an entry barrier and may restrict many bidders from participation. The IFSA report has pointed out that there is no single entity for contractor's registration. Therefore, the program would develop common registration platform for the contractor's registration or alternatively issue GO validating contractor's registration certificate irrespective of their registration authority.

29. Grievance redressal system: while the Procurement Rules 2008 (updated 2017) mandates the institution of grievance redressal system, none has been instituted and therefore, there is no data on how procurement grievances are addressed. The SWSM/SPSU shall institute GRM within the SWSM/SPSU and shall address all procurement grievances as per the set procedures throughout the Program period.

30. Contract administration: Contract administration is generally lacking in all the identified PIUs. These PIUs have different models of contract administration. While UJN uses turn-key contract management system, UJS uses mostly rates contract for supply of materials and labour. The rates contract is established at the headquarter level and the supply order are placed by the district engineers

[27] The thresholds are revised from time to time through Government Order (GO). The current threshold is INR 500,000 for works.

as per their requirement. In UJS, it is noted that multiple contract/suppliers are involved in executing one contract (i.e. pipe supplier, transporter, labour contractor etc.). It is likely that under such arrangement there would be an accountability issue on contract monitoring and implementation, which can lead to late delivery of goods, inferior quality, delay in payments, poor performance of the contractor, etc. Variations have been noted in procedures used: (a) procurements by individual beneficiaries and procurement of materials from suppliers / shopkeepers through discussions, with no quotations and with no contracts; (b) procurement in UJS is mostly on rates contract, standard formats for quotations are not used, there are multiple contracts (i.e. supply of materials, labour contract, transportation contact etc.) thereby losing single responsibility; there is no quality check for delivered goods; the sub-engineer inspects the final construction work, etc. Procurement is conducted on an ad-hoc basis depending on the available budget during the fiscal year. Information related to the procurement plan, procurement process followed, name of the winning bidder, and performance monitoring of contractor/supplier is not organized or consolidated at the headquarter level to help make appropriate management decisions. There is no defined framework for dissemination of procurement-related information such as budget and expenditure, bidders' participation, price comparison, and bidders' performance, contract award notices, etc. Therefore, the Program requires an integrated program MIS to manage various stages of procurement management, budget, financial and contract administration. The SWSM/SPSU would develop this system as part of PAP in year 1 of the Program and would implement throughout the Program.

(iii) Internal Controls

Internal Controls and Audit

31. Existing Systems: All the entities have clear delegation of powers and segregation of duties. Internal controls are followed in various forms and exercised by the entities. However, as per the AG report, the internal controls are not adequate in case of UJN and UJS. Procurement process monitoring and oversight currently rests within the hierarchies of the procurement management system. A separation of functions for independently assessing and ensuring the integrity of the process and the system is not yet in place. Further, there is no system of conducting post-procurement review within the agency.

32. Program Systems: There is a need to establish and institutionalize a post-procurement review (PPR) process to be conducted on a sampling basis annually by the SWSM/SPSU to assess the degree of adherence to agreed norms and guidelines and the integrity of the procurement process. In the case of assets created, the independent quality inspection should also be carried out including social audit. On behalf of SWSM, the internal audit covering all relevant entities would be conducted by a CA firm. The CA firm would carry out review of internal controls, corporate governance framework assessment as well as PPR for the program. The ToR would be agreed with the Bank. The SWSM/SPSU would share the report with the Bank on a regular basis.

Program Governance and Anticorruption Arrangements

33. The following is an assessment of the Vigilance aspects:

(a) The Uttarakhand VE was established under the Uttarakhand (UP Vigilance Established Act 1965) Adaptation and Modification Order, 2002. The VE is a special police force entrusted with the mandate of enquiry into complaints alleging acts of corruption and misuse of public servants of the State Government. It can also investigate private persons and agencies that have conspired in the alleged acts of corruption with the Government servants. The primary function of the VE is to bring relief to the common man by curbing corruption in Government Departments and Offices. The VE functions through two sector offices at Dehradun and Haldwani coinciding with the jurisdiction of the Gahrwal and Kumaon Divisions.

(b) The VE is also responsible for keeping the Government informed of any issues of corruption, misbehaviour, or any malpractice. It also has investigation functions and gathers intelligence as needed on cases of corruption. The complaints can be lodged via the website, email, phone,

Facebook, WhatsApp, or through a personal visit. The VE also maintains a manual register of all complaints.

(c) From 2001-2015, the VE recorded 162 complaints, with 16 resulting in "convictions" and 114 still under process or in court. The maximum number of complaints (29) were received in 2009. In 2015, 16 complaints were received and eight remain pending.

(d) The line agencies are responsible for preventing fraud and corruption. Under the Program, the agencies would be responsible for taking all appropriate actions to ensure transparency and accountability. The entities would adopt and implement appropriate fiduciary and administrative prices and institutional arrangements to ensure that the Program funds are used for the purpose intended. If the Government or the Bank determine that any person or entity has engaged in fraud or corruption in connection with the Program, the agencies would take timely and appropriate actions.

(e) In the context of the Program, the Government would inform the Bank of any indication of fraud and corruption, and will cooperate with the Bank in any investigation into indications of fraud and corruption. The Government will also ensure that any person or entity debarred or suspended by the Bank is not awarded a contract or allowed to participate in the Program during the period of the debarment.

(f) Currently, there are no vigilance systems operating below the state level (i.e. within line agencies). There is also a lack of a complaints-handling system in the context of procurement and financial management which can affect overall accountability within the Program. Uttarakhand also lacks a verification and oversight systems, which will need to be built into the Program to ensure that any incidence of fraud or corruption can be prevented. In addition, all standard bidding documents will be required to include the fraud and corruption clauses.

(g) Under the Program, the government would establish a system that complies with the anti-corruption guidelines.

34. *Applicability of Anti-Corruption Guidelines of the Bank for the Programs.* The GoUK is committed to ensuring that the Program's results are not impacted by fraud and corruption. Through the Program's legal documents, the GoI and GoUK are committed to the obligations under the Anti-Corruption Guidelines (ACG) for PforR operations which includes World Bank's 'Guidelines on Preventing and Combating Fraud and Corruption in Program-for-Results Financing' dated February 1, 2012, and revised on July 10, 2015, which covers the borrower's obligations under the ACGs. In the context of the Program, the Government will inform the Bank of any indication of fraud and corruption, and will cooperate with the Bank in any investigation into indications of fraud and corruption. The Government will also ensure that any person or entity debarred or suspended by the Bank is not awarded a contract or allowed to participate in the Program during the period of the debarment. GoUK commits to sharing complaints information with the Bank, which may be derived from a variety of sources, including the complaints handling system.

External Audit

35. Existing Systems: The AG has completed UJN and UJS's audit till 2015-16. The AG issued a Separate Audit Report (SAR), which is also the entity audit report. For SWSM and Swajal, the audit was completed up to 2015-16.

36. Program Systems: SWSM will prepare a consolidated program statement and audit report. The audit would be conducted by CA firm appointed by SWSM as per agreed terms of reference with the Bank. For UJN and UJS, CAG would carry out the entity audit and in case CAG audits are delayed which is beyond the control of the client, a reputed CA firm will conduct the audit for the program. The consolidated audit report will be submitted within nine months from end of FY.

Procurement and Financial Management Capacity

37. Existing Systems: GoUK has posted a senior officer as Finance Controller for these entities. However, SWSM, UJN and UJS have inadequate accounting staff across all levels. While the staff are

involved in day to day accounting processes, their understanding of overall entity accounting and relevant reporting is weak. Even at the headquarters, very few staff members are able to read financial statements. UJN and UJS outsource the compilation and finalization of accounts to CA firms. CAG has also highlighted lack of internal controls and staffing, which affects the overall accounting framework. Overall, this issue is more acute for UJN. Except in SWSM, there is no dedicated procurement staff in UJS and UJN. Procurement is carried out by every unit/field unit depending on their financial delegation, therefore, there is no separation of functions under the current system. For instance, a designated person (i.e., engineer) handles all works such as preparation of technical requirements, conducts procurement, receives or verifies invoices and in some cases even signs check payments. The practice of overlapping functions is seen as a potential risk for the implementation of program.

38. Program Systems: UJN and UJS need to review their accounting cadre structure and recruit commerce graduates and professional accountants as part of their team to ensure long-term sustainability of operations. The Program would include training and capacity building activities for financial management. In addition, to ensure adequate accounting and financial management, staff can be hired on a contractual basis. All PIUs under this Program should either designate/appoint dedicated Procurement Officer who would do overall coordination of procurement process in respective PIUs.

Program Systems and Capacity Improvements

39. Based on the fiduciary assessment the key risks and mitigation actions are presented below.

Table A5.2: Fiduciary Risks and Mitigation Measures

Risks	Mitigation action	Timing	Type of action
Inadequate budget and delay in funds release	Project budget head created. GO specifies pre-financing by government as well as agreed timelines for funds transfer	GO issued. Annual compliance	POM
Absence of grievance redressal system	Develop and institute robust GRM and implement throughout the program	Year 1	PAP
Weak contract management	Develop and implement Integrated Program Management Information System	Develop Year 1 Implement from Year 2	PAP
Weak accounting system in UJS & UJN	Implement computerized systems and accounting reforms in UJS & UJN in all division	Implementation to be completed by Year 3	PAP
Ad hoc planning and budget provision	Develop and operationalize MTEF	Develop Year 1 Implement from Year 2	PAP
Poor vigilance system	Develop and implement vigilance system at all levels of implementing agencies	Year 1	PAP

Disbursement Arrangements

40. Program expenditure: Program expenditure would include: (a) augmentation/improvements of water supply systems; (b) construction of new water supply systems; (c) provide metering; (d) centage as notified by GoUK related to works done under the program; and (e) staff salaries, consultancy services, office equipment including computer hardware and software, and all expenditure related to the program. Remuneration and salaries of FIU staff deputed/assigned to the Program and administrative expenses would be included in the cost of the water supply schemes based on centage. Operational and administrative costs associated with the SPSU and PIU would be financed under the Program. This would include staff compensation (remuneration & salaries), building rentals, annual maintenance, administrative and general expenses, computer facilities, furniture and fixtures, etc.

41. Disbursement arrangements for PforR. The DLIs form the basis of disbursement of funds for the Program. Annex 3 provides details on the DLIs, disbursement amounts against each indicator, and the protocols for their verification. An initial advance of 15 percent would be made available, based on agreement with DEA. It is important to note that the actual expenditure at Program completion would be compared with disbursements, and any shortfalls would be recovered by the Bank.

Implementation Support

42. The mission would review the agreed PAPs during every mission and agree on an action plan based on the work done by the project. Continuous support would be given to the client for implementing PAP. The mission would review implementation progress report on a timely basis and monitor the finding of the PPR and audit report on a regular basis. The mission would review the fiduciary risk including relevant legal covenants. The mission would also review the program expenditure on a regular basis.

Detailed Assessment of Implementing Agencies

43. During the assessment, the following strengths and risks within implementing agencies were noted:

SWSM

- They are collating the accounts of all the line agencies and consolidating them in order to forward to respective funding agencies and government
- Staff at SWSM is technically sound
- Segregation of duty exists with regard to maintenance of books of accounts, authorizing and monitoring the transactions, etc.

Uttarakhand Jal Sansthan

- UJS has made good progress on accounting and financial reporting. Division level officers have taken initiatives to prepare the accounts in Tally and submit them to the head office.
- Documents at the HO were properly maintained
- UJS has proper storage facility in place to store the procured goods

Uttarakhand Peyjal Nigam

- It was observed that they have an operating manual which gives comprehensive guidance on the procurement front. The manual also covers areas which are not covered under the procurement rules 2017.
- UJN has proper storage facility in place to store the procured goods
- During the assessment it was observed that the EEs had a sound knowledge about their work and were familiar with the e-tendering process
- They have retained the staff of National Informatics Centre (NIC) to assist them with e-procurement procedures.

Swajal – now merged with SWSM

- Documentation was found to be done properly. The officials have maintained documents relating to schemes systematically.
- Fixed Assets Register is in place
- Physical Verification of assets was conducted and reports were also prepared for the same
- Segregation of duty exists with regard to maintenance of books of accounts, authorizing and monitoring the transactions, etc.

44. The table below summarizes the assessment of the implementing agencies.

Table A5.3: Assessment of Implementing Agencies

S.N.	Risks	Area	Line agencies			
			SWSM	UJS	UJN	Swajal
1	Improper planning and budgeting and no prioritization of schemes	Planning & Budgeting	x	Yes	Yes	x
2	No analysis of stock and significant unutilized stores	Planning & Budgeting	x	Yes	Yes	x
3	Untimely utilization of GoI NRDWP funds – lapses of funds or partial deduction of funds	Fund flow	x	Yes	Yes	x
4	Inadequate capacity of staff at the accounts department due to manual accounting- delays in preparation of financial statements and inaccurate financial statements	Accounting and financial reporting	x	Yes	Yes	x
5	Evidence of cash/bank being monitored not made available	Accounting and financial reporting	x	Yes	Yes	Yes
6	Oversight mechanism not robust due to delay in conduct of audit; internal audit is weak	Audit	x	Yes	Yes	Yes
7	Physical verification of assets not taking place	Internal control	X	yes	Yes	x
8	Lack of segregation of duty w.r.t maintenance of fixed asset register, access to and issuance of assets	Internal control	NA	Yes	Yes	Yes
9	Procurement planning is absent in the procurement cycle at both Head Office (HO) & division level	Procurement	NA	Yes	Yes	Yes
10	Lack of Standard Bidding Documents and inconsistency among documents	Procurement	NA	Yes	Yes	Yes
11	Low familiarity of user with e-procurement	Procurement	NA	Yes	Yes	Yes
12	No effective complaint handling system	Procurement	NA	Yes	Yes	Yes
13	No dedicated staff for procurement process	Procurement	NA	Yes	Yes	Yes
14	Monitoring tools for procurement are not available/MIS is not being utilized	Procurement	NA	Yes	Yes	Yes
15	Lack of formalized vigilance function at the HO and division level	Vigilance	Yes	Yes	Yes	Yes
16	Lack of awareness about the state vigilance establishment	Vigilance	Yes	Yes	Yes	Yes

45. Based on the above risks the following mitigation measures have been identified:

Financial Management

(i) There should be proper planning for preparation of budget;

(ii) Prioritization of schemes should be undertaken to avoid fund shortage and ensure timely completion of schemes;

(iii) The staffing pattern of the Finance and Accounts Wing of the entities should be strengthened. The accountant should have required qualifications to carry out the functions. Entities should strive to employ qualified CAs or personnel with equivalent qualification and requisite experience should be preferred for the position of the departments (senior positions). Also, officers appointed should have knowledge about handling computerized accounting systems. The HO should review and assess the staffing needs and recruit officers accordingly;

(iv) Entities should follow accrual basis of accounting across all the divisions and funds to provide true and fair view of the accounts;

(v) A computerized accounting system with uniform chart of accounting codes is suggested for recording accounting entries and preparation of financial statements. Further the accounting system can be customized to the needs of the entity based on the new accounting manual. This would also help in standardization in preparation of books of accounts for all the funds;

(vi) An updated accounting manual was prepared recently. The line agency should review and obtain necessary approvals to formalize it. Further, the line agency shall train its staff with respect to the new manual;

(vii) Regular training sessions should be conducted regarding the accounting functions;

(viii) It should be ensured that external audit is conducted on a yearly basis. As CAG audits are not being conducted regularly, a CA firm can be appointed to undertake external audits on yearly basis. Additionally, introduction of risk based internal audit would further strengthen the process.

Procurement

(i) Develop standard bidding documents for Goods, Works and Services and ensure that the document is easily available and used consistently by all the PIUs;

(ii) A complaint handling system is to be developed and made accessible to all stake holders. The system must have time frame for redressal and an escalation/review mechanism;

(iii) Build capacity for procurement planning and set frequency for mandatory review and updating of the plan;

(iv) The procurement function should be separated from the accounts function. An EE or any other officer can be designated as a specialist procurement officer and it can be ensured that he is inviting bids and is a member of the Technical Committee and is involved in bid processing. Also, the procurement officer can act as a nodal officer with regard to rules and manuals, bidding documents and custodian of procurement expertise;

(v) The e-procurement platform must be used to full potential to generate data to measure performance of procurement;

(vi) The operating manual of UJN which includes procurement modules can be adopted by UJS after modifying and reviewing it accordingly;

(vii) Identify staff with good skills to handle DBO Contracts. Program can arrange relevant trainings for the group to enhance their capacity;

(viii) The usage of e-procurement may be expanded to include all procurement above Rs 5 Lakhs as in other state. The existing threshold of Rs 1 crore for works keeps large numbers of procurements out of e-procurement purview.

Vigilance

(i) Line agencies would take steps to create awareness about Vigilance Establishment. They will advertise the details in the notice boards or relevant places at the officers at HO and division level;

(ii) A Complaints Handling Report would be prepared on the nature of complaints, measures taken to address, and resolution achieved.

Conclusion

46. Based on the IFSA, the experience in the previous project and discussions with GoUK, the overall fiduciary risk rating is substantial. However, subject to implementation of the Program Guidelines and specific mitigation measures included in the PAP, the overall fiduciary framework provides reasonable assurance to support the Program. The level of risks identified at this stage are likely to reduce after implementation of the mitigation measures.

Annex 6: Summary Environmental and Social Systems Assessment

1. The ESSA was carried out to understand the potential environmental and social risks, and the benefits, impacts and opportunities of the likely investments under the Program. This ESSA examined the Program's processes and systems for environmental and social safeguards for their consistency with the core principles outlined in the Bank's Policy and Directive for Program for Results (PforR) Financing. The key findings of this assessment are based on a review of existing information and field visits, discussion with relevant stakeholders, and consultations with representatives of DDWS, user groups, and community members.

Environmental Systems

2. The GoUK has a well-established system to manage environmental impacts, including regulations to address concerns of source sustainability, drainage, waste management, labour and worker safety and protected areas. UJN and UJS have demonstrated their ability to address environmental issues by taking a number of innovative steps for energy reduction, augmenting water supply and improving the sustainability of existing water supply systems.

3. Water supply projects in the past required the implementing agencies to work with environmental regulations and therefore these agencies have experience with environmental safeguards requirements. The state also has well-defined environmental guidelines and related infrastructure, including a network of water testing laboratories to check for water quality and residual chlorine. The overall impact of the program on the environment and on human health is likely to be positive. However, some environmental risks could arise during implementation. On balance, the overall environmental risks associated with the Program are considered ***Moderate***. The key environmental risks under the Program are as follows.

(a) *Water Quality*. The State Pollution Control Board data indicates that large number of surface water sources are affected by faecal and industrial contaminants and are unfit to be used as drinking water sources. Presently, all Program districts show the existence of diarrhoeal diseases, which may be related to water quality issues. This may affect the use of these sources for schemes under the Program. The availability of robust water quality data for groundwater sources is limited. Also, sewer systems are largely unavailable in peri-urban areas and residents depend upon septic tanks and pit latrines for their sanitation needs. If the septic tanks and pit latrines are not properly constructed, there could be instances of faecal contamination of groundwater. As water is chlorinated prior to distribution, several water quality issues identified would be addressed under the Program. However, the operation of the chlorination system would depend on pump operators, who may have limited capacities. This may affect the quality of water supply to customers.

(b) *Groundwater Abstraction*. Most peri-urban areas are dependent upon groundwater sources. The Central Ground Water Board data suggests none of the identified peri-urban areas have any dark zones, making it safe to currently abstract groundwater. The Program is likely to improve service levels from the current 55 lpcd to 135 lpcd, with the overall impact of water abstraction likely to be negligible. However, with rapid urbanization and development it is likely that there may be decline in the existing aquifers. Thus, measures to address source sustainability need to be addressed by GoUK through other state programs and policies.

(c) *Site Management*. The implementing agencies hire contractors to construct schemes under the Program. All construction contracts include clauses for OHS and management of the construction site, including waste management, erosion control, and site safety. To ensure that these clauses are followed, site supervision may need to be strengthened.

Social Systems

4. The State government has robust systems, progressive policies, social legislations and comprehensive institutional mechanisms to address social issues that may emerge from current implementation processes and from potential Program investments. Based on the present assessment, the overall social risks associated with the Program are considered ***Moderate***.

5. The Program is likely to have positive social impacts on the lives and livelihoods of large peri-urban population that still do not receive optimal levels and quality of water supply services. The Program is expected to help in reducing drudgery for women and girls of the impacted households, who otherwise are made responsible for organizing the drinking water supplies for the family and would have substantial positive impacts in terms of time-saving, reduced morbidity and expenditure on health owing to improved water quality.

6. As in other parts of India, the peri-urban areas of Uttarakhand are marked by low social capital, inequitable benefit distribution, and high disparities in inter-household social and economic attainments. Uttarakhand's existing policies related to differential tariffs and pricing and the Program's focus on improving service levels, metering, and consumption-based water pricing would help in creating a more equitable distribution of water supply services in peri-urban areas.

7. Progressive and transparent national and state level policies prioritize habitations with low coverage and focus on household level water security. The Program complements these policies, and aims to strengthen inclusive and accessible water supply service delivery in peri-urban areas. Also, there are strong precedents of positive decentralization experiences from the previous World Bank supported projects. These lessons and experiences, if incorporated well in the new Program would ensure that the systems for the upcoming Program are inclusive, have a substantive role for stakeholders in supporting planning and implementation of water supply schemes, and offering equitable services. These Bank supported WSS projects in the state also created a large pool of Civil Society Organization-CSOs/ Support Organisations-SOs that can further stakeholder initiatives, contribute to large-scale social mobilization in the peri-urban areas and support capacity building of various program stakeholders for facilitating greater ownership for water supply schemes. However, these may be affected due to the low-social capital in peri-urban areas.

8. Usually very small pieces of land are required for the scheme related constructions, for which GP land is available. The GP land would be free from all encumbrances related to land acquisition and therefore would not pose any challenge. A review of the land requirements under the project would be undertaken after completion of the first year, to assess the nature and scale of land required, both common and private land, and a decision on the systems to be adopted by the Program. The social risk screening measures for the program would also screen out interventions involving land acquisition. Program would ensure that the WB guidelines on voluntary donation are implemented.

9. At the same time, there are some challenges that the Program may need to address. Many institutions with overlapping mandates and unclear roles and responsibilities for construction, operations and maintenance of schemes are engaged in Uttarakhand's water supply sector. This can affect institutional accountability. There is also limited information sharing and coordination among district implementing agencies at the field level, which can affect construction, operation, maintenance and augmentation of water supply schemes. These challenges are adequately addressed in the design of the Program. However, capacities of many elected representatives in user committees is weak and as a result, the GPs are often heavily reliant on the implementing agencies for support. This could pose a problem in peri-urban areas where community initiatives and governance are less likely to succeed. In order to address these issues, the stakeholder consultations and involvement are a key part of the design of the Program.

10. GoUK has clear protocols on the elaborate phases of social mobilisation and community capacity building. This is also clearly indicated in several GoUK and Departmental Orders. However,

there is evidence of low or limited social mobilization, and consequently limited ownership in some schemes. This could affect tariff collections, operation and maintenance, and possibly schemes becoming unviable. However, given the high demand for water supply in the peri-urban areas, this scenario is unlikely.

11. The key risks associated with the program include a) ineffective implementation of mechanisms to ensure participatory and inclusive planning of schemes, leading to the exclusion of vulnerable and marginalised communities; b) risk of inequitable benefit distribution in peri-urban areas due to challenging topography, high population influx, high inter-household disparities in economic status, large demand-supply gap, competing demands of commercial/domestic users and low social capital within peri-urban communities; c) issues of affordability and access in shifting to private connections, especially for the economically vulnerable communities and female-headed households that have traditionally depended on public supplies (stand posts or hand pumps); d) potential risk of rural-urban conflicts over use of resources, such as sourcing of drinking water supply for urban areas from rural sites; and e) risk of social conflicts among the residents of peri-urban areas, especially between the old native population and the new settlers due to disproportionate consumption of water supply services.

12. It will also be important to integrate and sustain social capacities within the DIAs to ensure participatory planning and community support during the design and implementation of water supply schemes. Deploying staff with social and community development skills in these implementing agencies would help instil greater community ownership, and more clarity on roles and responsibilities of user committees and the community at large during the mobilization and planning stages of schemes. This can also be complemented with better coordination and information sharing among the implementing agencies for more streamlined and accountable implementation. It is also recommended that formalized institutional mechanisms for resource use/sharing and coordination between the rural and urban local bodies be established to mitigate the potential social risk of triggering tension or conflict between rural and urban communities.

13. A common GRM for the peri-urban water supply program of the state, cutting across implementing agencies, schemes and modalities is recommended. This is already an important feature of the Program and will be used to address issues of exclusion, access and service delivery.

14. Based on the risks assessed, the combined Environment and Social PAP is given below.

Table A6.1: Environment and Social Action Plan

Key Program Actions	***Responsible Party***	***Proposed Timeline and Activities***
Develop and implement environment and social risk screening mechanisms for assessing impact of program investments	SPMU/SWSM	Year 1 (First half): Develop indicators and procedures for risk screening measurement and verification Year 1 (Second half): Test and roll out implementation of the screening framework

Exclusion of High Risk Activities

15. The ESSA recommends the following activities be excluded from program support in view of associated high environmental and social risks:

- Support to the creation of large water supply schemes that entail land acquisition and displacement of communities.
- Support to the creation and development of water supply systems or disposal of waste in National Parks or Wildlife Sanctuaries.
- Undertake any activity that uses asbestos.
- Schemes involving major land acquisition.

Annex 7: Systemic Operations Risk Rating (SORT)

Systematic Operations Risk-Rating Tool (SORT)	
Risk Category	**Rating (H, S, M, L)**
1. Political and Governance	Moderate
2. Macroeconomic	Low
3. Sector Strategies and Policies	Substantial
4. Technical Design of Project or Program	Moderate
5. Institutional Capacity for Implementation and Sustainability	Substantial
6. Fiduciary	Substantial
7. Environment and Social	Moderate
8. Stakeholders	Moderate
9. Other (DLI linked)	Substantial
OVERALL	**Substantial**

Annex 8: Program Action Plan

1. The Program Action Plan is given below to address the key environmental, social and fiduciary risks based on identified program risks and gaps.

Table A8.1: Program Action Plan

Action Description	DLI	Due Date	Implementation Period	Responsible Party	Completion Measurement
I. Safeguards					
(a) Develop and implement environment and social risk screening mechanisms for assessing impact of program investments		Within three months of Program effectiveness	Implement entire program period	SWSM/SPSU	• Environment and social screening system developed and operationalised
II. Fiduciary					
(a) Develop and institute robust grievance redressal mechanism		Within one year of Program effectiveness	Implement entire program period	SWSM/SPSU	• GRM established
(b) Develop and implement vigilance system at all levels of Implementing Agencies		Within one year of Program effectiveness	Implement entire program period	SWSM/SPSU	• Vigilance system established
(c) Develop and implement Integrated Program MIS (procurement, finance and contract management system)		Within one year of Program effectiveness	Implement entire program period	SWSM/SPSU	• Integrated Program MIS established •
(d) Implement computerized accounting systems and accounting reforms in UJN and UJS in all divisions		Within one year of Program effectiveness	Implement entire program period	UJN, UJS and SWSM/SPSU	• Manuals adopted by UJN and UJS in year 1 • Computerised accounting system established in year 2 • All entity accounts generated from computerized accounting system in year 3 • Accounts submitted on a timely basis and audit completed within six months from end of the financial year, from year 4
(e) Develop and operationalise MTEF for the sector		Within one year of Program effectiveness	Implement entire program period	SWSM/SPSU	• MTEF developed in year 1 • MTEF used for budget preparation from year 2
III. Timely Reporting					
Timely Reporting on progress and achievements of DLIs		By end October each year	Implement entire program period	SWSM/SPSU	Annual Reports on progress and achievement of the DLIs

Annex 9: Implementation Support Plan

1. The Bank implementation support would focus on the overall implementation quality and on making the performance based financing system work to its fullest potential. This support would be through routine supervision missions and additional experts / sector specialists, as required. The PforR operation relies significantly on the monitoring systems, verification systems, and the capacity of the state agencies to implement the Program and achieve results as per agreed DLIs. The support would include reviewing implementation progress and achievement of the Program results and the performance of the DLIs, providing support on resolving Program implementation issues, monitoring the adequacy of performance of the state sector institutions, monitoring compliance of legal agreements, supporting GoUK in monitoring the risks, and providing timely technical support. The POM would serve as the guidelines for the operation and a key reference for GoUK.

2. The first implementation support mission should commence soon after Board approval to ensure that many of the upstream actions are in place, including design of schemes, preparation of policies, masterplans, and M&E systems. This will also include trainings of personnel and consultants, preparation of schedules and survey methodology, capacity building plans, and performance assessment plans. It is critical to have early involvement of technical experts in addition to the social, environmental and fiduciary teams. Experts on managing survey protocols and M&E systems are required to support the GoUK in rolling out the verification of results achieved under the Program. In the first year, two implementation support and one follow up technical missions would be undertaken.

3. On average, two implementation support missions are planned per year. However, the frequency may increase depending on implementation performance. The Bank team will focus on verification and M&E, in addition to monitoring the compliance with legal agreements and progress in achieving PAP actions, and managing potential emerging risks. The timing of implementation support missions would be coordinated with key points in the verification of results for payment requests to the World Bank. Mid-term review of the Program would be held no later than January 2021.

4. The below table provides the main focus of implementation support.

Table A9.1: Main Focus of Implementation Support

Time	Focus	Skills Needed	Resource Estimate	Partner Role
First twelve months	• Support hiring of IVA and finalization of IVA methodology and protocols; • Support strengthening environmental, social, fiduciary and M&E systems; • Review progress in TA program for training and capacity building; • Monitor compliance of PAP actions; • Report any early risks with supporting mitigation measures; • Support verification / approval of DLIs.	M&E; procurement; financial management; social; environment; technical; institutional.	2 implementation support missions and 1 technical mission 2 x 7 experts x 2 weeks = 28 weeks In addition, 7 experts x 1 week = 7 weeks Total 35 weeks over 12 months	N/A
12-48 months	• Review implementation progress in achievement of DLIs and PDO;	M&E; procurement; financial management;	2 implementation support missions, and 1 technical mission per	N/A

Time	Focus	Skills Needed	Resource Estimate	Partner Role
	• Review implementation of PAP actions; • Review progress in TA program for training and capacity building; • Support verification / approval of DLIs; • Review compliance with legal covenants; • Support client in conducting the MTR.	social; environment; technical; institutional.	year, and Mid Term Review 2 x 7 experts x 2 weeks x 3 years = 84 weeks In addition, 7 people x 1 week x 3 years = 21 weeks Total 105 weeks over 36 months.	

Table A9.2: Task Team Skills Mix Requirements for Implementation Support

Skills Needed	Number of Staff Weeks per year	Number of Trips per year	Comments
M&E	6	3	3 trips from Y2
Procurement	3	3	
Financial Management	4	3	
Social	4	2	
Environment	4	2	
Technical	7	3	3 trips from Y2
Institutional	7	3	3 trips from Y2
Total staff weeks per year	**35**		