



I. STRATEGIC CONTEXT

A. Country Context

1. **India's Gross Domestic Product (GDP) growth was already slowing when the COVID-19 outbreak unfolded.** Real GDP growth moderated from an average of 7.4 percent during FY15/16-FY18/19 to an estimated 4.0 percent in FY19/20¹. The growth deceleration was mostly due to (i) shocks to the financial sector, and (ii) decline in private consumption growth². Against this backdrop of pre-existing weaknesses, the outbreak of COVID-19 had a significant impact, with real GDP contracting by 7.3 percent in FY20/21³. On the fiscal side, the general government deficit widened significantly in FY20/21, owing to higher spending and low revenues⁴. Given the significant uncertainty pertaining to epidemiological developments, real GDP growth for FY21/22 is likely to be in the range of 7.5 to 12.5 percent⁵. The expected recovery will put India among the world's fastest-growing economies.

2. **Although India has made remarkable progress in reducing absolute poverty in recent years, the COVID-19 outbreak has delayed the course of poverty reduction**⁶. Between 2011-12 and 2017, India's poverty rate is estimated to have declined from 22.5 percent⁷ to values ranging from 8.1 to 11.3 percent⁸. However, recent projections of GDP per capita growth, taking into account the impact of the pandemic, suggest that poverty rates in 2020 have likely reverted to estimated levels in 2016⁹. Labor market indicators from high frequency surveys -including from the Centre for Monitoring Indian Economy (CMIE)- suggest that vulnerability has increased, particularly for urban households. Overall, the pandemic and its economic impacts are estimated to have raised urban poverty, creating a set of "new poor" that are relatively more likely to be engaged in the non-farm sector and to have received at least secondary education.

3. **In the State of Himachal Pradesh, which the proposed project would support, economic growth has slowed in line with national trends.** The slowdown was most evident in the state's industrial sector which grew by only 3.9 percent in FY19/20, compared with an average of 9 percent in the previous five years. Due to the COVID-19 outbreak, the state's real GSDP contracted by over 6 percent in FY20/21 and the resurgence of infections in the first quarter of FY21/22 is expected to dampen the recovery. Activity in the services sector, particularly tourism, has been hit hardest by mobility restrictions. Tourism is a major growth engine in Himachal Pradesh with an estimated 20 million visitors in 2018-19, supporting 15 percent of the state's GDP and significant formal and informal employment. As a special category state, Himachal Pradesh is highly dependent on transfers from the central government. The state's own tax revenues account for only about 25 percent of current revenues. Nearly half of state revenues are based on transfers recommended by India's Finance Commission. These were also augmented by the revenue deficit grants recommended by the 15th Finance Commission, amounting to over 7 percent of GSDP in FY20/21.

B. Sectoral (or Multi-Sectoral) and Institutional Context

4. **Water Supply and Sanitation (WSS) services across India are under pressure from rapid population growth, urbanization and climate change impacts.** Policy and institutional reforms as well as infrastructure capacity in the water sector have not kept pace with India's rapid development. Although access to water supply and sanitation has

¹ National Accounts Data, National Statistical Office, Ministry of Statistics and Program Implementation (MOSPI).

² National Accounts Data, National Statistical Office, MOSPI.

³ National Accounts Data, National Statistical Office, MOSPI.

⁴ Union budget 2021, 2022, Ministry of Finance.

⁵ World Bank Global Economic Prospects, July 2021.

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

⁷ Consumption Expenditure Survey 2011-12, National Sample Survey Office (NSSO), Government of India.

⁸ World Bank estimates. Source: Poverty and Shared Prosperity Report, 2020.

⁹ World Bank estimates. Source: Macro Poverty Outlook, 2020.



increased, the service quality has remained inadequate. No city in India receives piped water 24 hours a day, drinking water standards are often not met, and few sewerage treatment plants (STPs) are functional. Climate change is impacting several states, with average temperatures projected to rise due to the changing precipitation pattern, causing cycles of extreme weather including droughts and flooding, and many locations will be considerably drier, impacting water sources such as lakes and rivers. Groundwater supplies are under stress due to decreasing precipitation rates and increasing extraction rates. The Non-Revenue Water (NRW) due to leakages, unauthorized connections and other inefficiencies is estimated at 40-60 percent, contributing to low Operations and Maintenance (O&M) cost recovery of typically 30-40 percent. The urban WSS sector has traditionally been managed through government departments and sector agencies with a high level of subsidies for CAPEX and OPEX and less focus on cost recovery and revenue generation. Energy costs, on an average, cover about 40% to 50% of the OPEX. The Government of India (GoI) has initiated three national missions to improve WSS outcomes: the Atal Mission for Rejuvenation and Urban Transformation (AMRUT), Smart Cities Mission, and Housing for All. In 2019, GoI also launched the Jal Jeevan Mission (JJM) Rural and Urban to provide piped drinking water to all households by 2024.

5. ***The COVID-19 pandemic has exacerbated the challenges in the WSS sector.*** WSS service providers have suffered substantial revenue decline due to the pandemic while operational costs have increased due to a more complex working environment and strained supply chains. There is now a risk of a vicious circle as financial losses and constraints on field operations are increasing the risk of service disruptions which in turn would pose additional public health risks. Safeguarding existing water and sanitation services, and rebuilding better to improve their quality, reliability and coverage, is critical to contain the pandemic and to recover from it.

6. ***Himachal Pradesh exemplifies many of the challenges that India's rapid growth and urbanization are posing for the urban WSS sector.*** In line with national trends, the state of Himachal Pradesh has experienced rapid economic growth, a decline in poverty and fast urbanization. The WSS services are primarily provided by the Government of Himachal Pradesh's (GoHP's) Jal Shakti Department (formerly Irrigation and Public Health (IPH) Department) and the Urban Local Bodies (ULBs). The WSS sector challenges continue to be severe, including weak institutions; a focus on infrastructure creation rather than service delivery; intermittent supply against rapidly increasing demand in the tourist towns; flat tariffs and gaps in metering; inadequate monitoring of water quality and systems for grievance redressal; growing stress on dependable, perennial and sustainable water supply sources; inadequate upgrading and augmentation of existing WSS schemes; and low cost recovery and heavy reliance on subsidies from GoHP, including high energy costs. Rapid urbanization has been especially challenging for Shimla, the capital of Himachal Pradesh, which receives an average of 3.2 million tourists per year in addition to its resident population of 0.2 million which is expected to double by 2050. These challenges have been compounded by jaundice epidemics in Shimla city in 2016. This has put heavy strain on the historical WSS infrastructure which retains a capacity of only 40 million liters daily (MLD) against the current demand of 56 MLD.

7. ***GoHP has taken a leading role in urban WSS reform and service improvements since 2018, launching an ambitious Medium-Term Program (MTP) with support from the World Bank.*** Responding to the jaundice epidemic of 2016, the declining capacity of traditional water sources, a fragmented institutional structure, limited existing infrastructure, and lack of financial sustainability, the GoHP launched its MTP in 2018, supported by the World Bank-financed Shimla Water Supply and Sewerage Service Delivery Reform Programmatic Development Policy Loan 1 (DPL-1). A core achievement supported by the Shimla DPL-1 was the creation of the Shimla Jal Prabandhan Nigam Limited (SJPNL), a corporatized WSS company for the state capital with full operational autonomy and responsibilities for WSS services, financial sustainability and customer accountability¹⁰.

¹⁰ The reforms under Shimla DPL-1 have focused on institutional structure and autonomy; human resources; corporate governance and performance; cost recovery, tariff and subsidy policy; performance-based service delivery orientation; energy efficiency improvements; and customer orientation and accountability.



8. ***SJPNL has made significant progress over the past two years.*** It has maintained stringent water quality standards, with an impressive track record that includes no further outbreak of jaundice; reduction of transmission losses by 20%; increase in the supply of water by 25%; and increase in sewage collection by 200%. The city receives an assured 2-3 hours of daily water supply compared to once in three days earlier and has started implementing a 24/7 program in demo zones. An increasing block volumetric tariff with annual indexation of 10% has been implemented and 100% of connections in Shimla city are now metered compared to the DPL-1 baseline of 20% metered connections. Prior to the onset of COVID-19, the company had completed three cycles of metered volumetric billing, nearly tripling its revenues. The SJPNL has introduced performance-based parameters in all contracts. An outreach program and Grievance Redressal Mechanism (GRM) have been established, and a new Customer Survey Report Card has shown satisfactory to excellent ratings.

9. ***While GoHP has taken bold steps in promoting an enabling environment for WSS reforms in Shimla, much remains to be done to deliver reliable and sustainable WSS services.*** GoHP has put in place the key pillars of WSS utility reforms including integration of WSS functions under a single company governed by a Board of Directors (BoD) with full autonomy and enabling policies for performance orientation, professional organisation structure, engaging with private sector, and funding commitment for a medium term investment plan. In parallel, SJPNL has stabilized the water crisis and brought under control the water quality and bulk water availability. Although confidence of citizens and elected representatives has improved, there is need for improving services beyond what was achieved in managing the 2018 water crisis. SJPNL is currently a nascent utility that has stabilized operations after a difficult WSS crisis.

10. ***SJPNL is now well positioned to adopt professional WSS utility practices and achieve corporate governance standards.*** So far, it has addressed the jaundice and water crisis through improvements in water quality, increases in bulk water supply and achieving assured daily supply. SJPNL is now focusing on citywide improvement in WSS services, including 24/7 supply, increased coverage in sewerage facilities from 60% to 100%, and treatment of 100% of wastewater, reducing GHGs, including methane capture and sludge management. Given the high bulk water costs in Shimla, the SJPNL needs to reduce water loss and energy consumption to control costs, improve revenue and maintain subsidies within the levels committed by GoHP. SJPNL has regained customer confidence after the jaundice crisis and has also set up a performance score card system and the GRM. It needs to build on these initiatives for improving WSS services and strengthening efficiency, sustainability and customer accountability.

11. ***Building on the DPL-1, the GoHP's WSS program focusses on three critical areas for improvement.*** These are: a) developing SJPNL as a well governed professional WSS utility with systematic business planning, corporate governance and performance focus, b) increasing operational efficiency, including energy efficiency, NRW reduction with associated GHG emissions reductions, smart metering, collection efficiency, tariff revision, and customer accountability, and c) improving services to deliver citywide 24/7 water supply and 100% sewerage coverage and treatment. Addressing the operational and financial performance of SJPNL will help increase the sustainability of services and strengthen the water assets'/local populations' resilience against climate change-intensified extreme weather risks such as drought and floods. These will solidify the gains made under the Shimla DPL-1 and serve as a model for WSS reforms across the State and in rest of India. *The forward-looking program for the SJPNL draws from the World Bank's flagship global initiatives - 'Utilities of the Future'¹¹ and the 'Policy, Institutions and Regulations Assessments'¹².* Based on diagnostics across several countries, these initiatives provide insights on how to improve WSS services so that these are efficient, resilient, and accountable. SJPNL will develop a Performance Improvement

¹¹ The *Utilities of the Future* initiative of the World Bank addresses the challenges of delivering safe, efficient and resilient WSS services. It is supporting the transformation of an initial group of 15 WSS Utilities.

¹² The *Policy, Institutions, and Regulations Assessment* of the World Bank is identifying governance bottlenecks to delivering sustainable WSS services. It is supporting an initial group of 10 countries.



Plan for each of these key areas, including building resilience to address the post-COVID-19 building-back-better for universal coverage. Local residents and tourists have a greater exposure to public health threats including waterborne diseases because of an increased frequency and intensity of climate-induced droughts and floods, in addition to the lack of adequate and sufficient water and sanitation services.

12. *SJPNL has also prioritized improving women's effective participation in WSS management and service-delivery.* While the female labor force participation rate in Himachal Pradesh is relatively high at 44.82%, women's participation in the urban labor force remains low at 28% pointing towards limited opportunities for women in non-farm sectors. Women are significantly under-represented in the water and wastewater sector. SJPNL has prioritized the recruitment of women in WSS management and service delivery; of the 60 contractual employees in SJPNL, 16 are women including seven employees in executive roles. The SJPNL is currently hiring additional contractual employees, with a target of 80 by March 2022. Building on past gains, there remains potential to strengthen HR guidelines to improve career advancement avenues for female professionals. It is also important to ensure that the past gains can be maintained in the context of COVID-19 as women have been affected more adversely than men in terms of job losses (Annex 5).

13. *The proposed operation will also contribute to addressing the impacts of the COVID-19 pandemic in Himachal Pradesh.* Improved and sustained water supply and sanitation services are central to containing transmission of COVID-19 and other contagious diseases. The ongoing pandemic threatens to cause service disruptions at this critical time due to a decline in revenues and COVID-19-related constraints on field operations. Revenue declines have been driven by customers' reduced ability to pay, the shutdown of commercial and tourism activities, as well as pressure on state subsidies to water supply as public funds are diverted to the pandemic response. At the same time, operational costs have increased as the working environment has become more complex and supply chains have become strained. The proposed operation will support contingency plans to avoid service disruptions and will build resilience against future shocks by creating strong institutions for efficient, accountable, and sustainable WSS services.

14. *The continued reform process will also strengthen the sector's resilience to climate change impacts by increasing the water utility's capacity for mitigation and adaptive management.* Himachal Pradesh is vulnerable to several climate hazards, including more frequent water shortages due to increasing temperatures, prolonged drought spells, and changes in precipitation and snow melting patterns, which will also increase flood risks¹³. The proposed project will help the GoHP to address climate change and disaster vulnerabilities by strengthening the quality and sustainability of water and sanitation services in the targeted areas, thus supporting adaptation and improving the resilience of the population. The proposed operation will also strengthen climate change mitigation, for example by reducing water losses and supporting measures to improve energy efficiency of water supply systems. Over the medium term, the GoHP's WSS MTP will play a key role in maintaining and improving water and sanitation services across the state as climate change progresses.

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

15. *The proposed operation is consistent with the World Bank Group's Country Partnership Framework for India (CPF: FY18-22; Report No. 126667-IN, July 25, 2018, discussed at the Board on September 20, 2018) and directly contributes to the World Bank Group's twin goals of ending extreme poverty and promoting shared prosperity.* The policy and institutional reforms with the underlying investment program will improve WSS services and reduce costs associated with the collection and storage of water, as well as instances of waterborne diseases, especially benefitting the poor. The reform program is consistent with the CPF focus on resource efficient growth that aims to "improve living conditions and sustainability of cities" as well as the CPF's aim to "target catalytic contributions, including

¹³ Water scarcity, extreme heat, and urban flood hazards are classified as high based on modeled flood information currently available, <http://thinkhazard.org/en/report/1493-india-himachal-pradesh>.



strategic partnerships with select states” and “improving institutions [...] through increasing capability and better aligning incentives as well as strengthening core government systems”. The expected reforms will support gender equality and empowerment by increasing female employment by the water service provider and by reducing water-related costs such as collection time that presently fall disproportionately on women and girls. The proposed operation is also aligned with India’s Nationally Determined Contribution (NDC) to reducing greenhouse gas emissions in that it promotes water use efficiency. This also supports the attainment of the goal to enhance water use efficiency by 20% by 2030 under the National Water Mission (one of eight missions of the *National Action Plan on Climate Change*).

16. *The proposed operation is aligned with the World Bank Group COVID-19 Crisis Response Approach Paper.* The Approach Paper recognizes water and sanitation services as “preventive and essential health services” and “emergency public goods” that are a critical part of the emergency health response. It proposes three stages of crisis response – Relief, Restructuring and Resilient Recovery. The proposed project will provide ‘Relief’ by enabling the GoHP to safeguard existing services in the face of pandemic-related fiscal pressures; it will enable the ‘Restructuring’ of water services by supporting the fundamental institutional reforms under the GoHP’s MTP; it will also support a more ‘Resilient’ recovery and “Rebuilding better” by facilitating major capital investments to improve access and water service quality. The improved WSS services will be more resilient to health crises such as the COVID-19 pandemic as well as to weather-related disasters and hydrological shocks such as floods or droughts. The WBG program in India has been adjusted to respond to the pandemic, which is further described in Annex 1.

17. *Mobilizing Finance for Development:* The proposed operation will support public sector reforms, including improving operational and financial sustainability of services through an autonomous and accountable WSS Company and thus strengthening its capacity to improve services. This will gradually improve the creditworthiness of the WSS Utility and enhance the chances of mobilizing market funds and future private financing.

18. *The Bank is uniquely positioned to support the strengthening of the WSS reform program due to its successful support role in the first phase of the reforms under the DPL-1.* As a partner of the GoHP since the start of the reforms in the capital Shimla, the Bank has established strong relationships and local expertise that are now informing the proposed operation and will help mitigate risks. The PforR instrument, which is designed to finance borrower programs and incentivize the achievement of results, is particularly well-suited for this WSS sector reform program with its clearly defined institutional and service performance goals and successful track record.

II. PROGRAM DESCRIPTION

A. Government Program

19. *The proposed PforR supports the GoHP’s WSS Medium Term Program (MTP) 2018 to 2030:* The GoHP launched its WSS MTP in 2018 as a comprehensive response to the jaundice crisis in Shimla. The crisis triggered an intervention from the judiciary and the GoHP set up a high-level committee to recommend corrective measures. Based on the committee’s report and the GoHP’s Water Policy of 2013, the GoHP prepared the MTP as a phased, comprehensive roadmap for improving WSS services across the state of Himachal Pradesh.

20. *Objectives of the WSS MTP:* The MTP aims to improve WSS services with the goals of universal coverage of safe water supply and sanitation services, continuous pressurized water supply, accountability and responsiveness to citizens, and decentralized service delivery through autonomous and professional institutions. The state has adopted the Ministry of Housing and Urban Affairs (MoHUA) Service Level Benchmarks on WSS services. The GoHP will provide grants to meet the capital expenditure required to achieve the service standards, focusing on policy and institutional reforms for improving governance, increasing efficiency of WSS operations, and increasing customer orientation and accountability.



21. **Phased Approach for rolling out the WSS MTP:** The MTP will be rolled out in phases, with the first phase already launched to address the jaundice and water crisis in the Greater Shimla Area comprising Shimla city and its peri-urban areas. The Shimla city is governed by the Shimla Municipal Corporation (SMC) and the peri-urban areas are governed by the rural local bodies. The population of the Greater Shimla Area is approximately 300,000 (2020), of which the population within SMC limits is 205,000. The state capital also receives large volumes of visitors, exceeding 66,000 a day during summer weekends, and reaching 3.4 million tourists annually. The WSS responsibility in Shimla City has been vested in SJPNL by the SMC. WSS in peri-urban areas are provided by the Jal Shakti Department (former Irrigation and Public Health Department or IPH). Under the MTP the SJPNL will continue to be responsible for WSS services in Shimla city and bulk water supply to Jal Shakti Department in the peri-urban areas. The planned subsequent phases of the GoHP's MTP will expand reforms and service improvements beyond the state capital, in particular to priority tourist towns and their peri-urban areas.

22. **Financing of the WSS MTP:** The MTP is financed by the State budget and various national missions such as AMRUT, Smart City Mission, Swachh Bharat Mission (SBM) Urban, and the JJM. The total anticipated expenditure under the MTP is US\$ 750 million during the period 2018-30. The first phase of this program was initiated in Shimla under the Bank-supported DPL-1, which contributed US\$ 40 million in financing to address the water crisis issues. The proposed PforR will support the continuation and deepening of the Phase 1 reforms until 2026. Funding from national missions has also supported the infrastructure investments that have complemented the MTP's institutional reforms. Notably, AMRUT is being implemented in Shimla with a special focus on increasing the WSS network coverage with metering and online MIS-based monitoring systems. It has supported the improvement and augmentation of existing water supply schemes from catchments areas, adding capacity to the water treatment plants, renovating the water supply network and increasing sewerage network connectivity in the city. GoHP has committed to provide O&M subsidies to address the high cost of bulk water in Shimla. The state also supports the National Action Plan on Climate Change by promoting water use efficiency through regulatory and pricing mechanisms as per the State Strategy and Action Plan on Climate Change, which has a set target of efficiency improvement of 20% by 2030.

23. **Achievements of the Government Program and Future Focus:** The first phase of the MTP was launched in 2018 in the Greater Shimla Area and resulted in the formation of SJPNL as a corporate WSS entity with support from the World Bank (DPL-1). In the first two years of the MTP, SJPNL has achieved impressive service and governance improvements as detailed in Annex 11. With support from the proposed PforR, the first phase of the MTP in Shimla will continue until 2026, assisting SJPNL during the COVID-19 pandemic and deepening the reforms and service improvements already introduced. In the future phases of the MTP the GoHP will extend the MTP to economically important urban clusters in the rest of Himachal Pradesh. Fourteen towns and their peri-urban areas have already expressed their interest to adopt the GoHP's MTP including the policy and institutional reforms.

B. Theory of Change

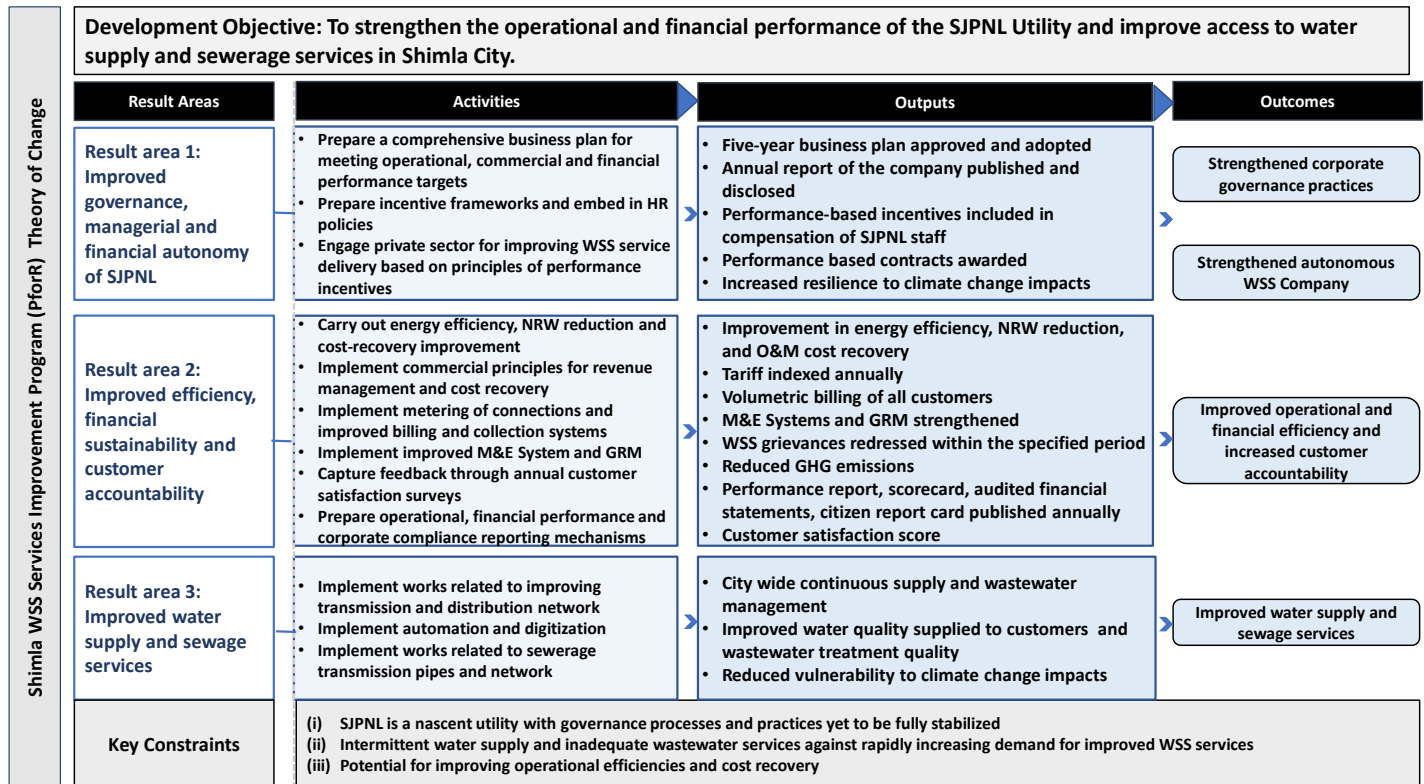
24. **The Theory of Change posits that effective, autonomous WSS institutions, embedded in a policy framework that incentivizes efficiency, accountability and performance, are critical to improve WSS services.** While adequate WSS infrastructure is important, traditional approaches that have focused solely on capital investments have often failed to achieve lasting service improvements as operators struggled to maintain their assets, leading to a "build-neglect-rebuild" cycle. As reflected in the theory of change (Figure 1 below), the proposed PforR seeks to improve on this by complementing infrastructure inputs with appropriate policies, institution building, regulation, and accountability measures.

25. Informed by the successful initial reform steps under the Shimla DPL-1, the results areas outline clear activities and outputs marking policy, institutional and accountability milestones that are expected to achieve the desired objective – improved services in Shimla through the WSS Company with greater operational efficiency, customer



accountability and financial sustainability – and thus improved living conditions, improved climate resilience coupled with reduced GHG emissions, and more accountable governance. This will support the Sustainable Development Goals focusing on safely managed WSS services.

Figure 1: Theory of Change



C. PforR Program Scope

26. **The PforR will support a well-defined program that forms part of the GoHP's overarching WSS MTP.** The primary program boundaries are geographic and temporal – the PforR will focus on supporting the Phase 1 program up to 2026, whereas the WSS MTP covers the period to 2030. Moreover, the PforR support will focus on Shimla city, whereas the ultimate ambition of the WSS MTP is to introduce reforms and improved services across the state (Table 1).



Table 1: Program Boundaries

	GoHP's WSS MTP for the State	Program supported by the PforR	Specific features aligning with the MTP
Objective	Policy and institutional development program for promoting a professional corporate culture, improving water supply and sanitation services, and enhancing efficiency, financial sustainability and accountability of services.	The Program supports the GoHP in strengthening the operational and financial performance of SJPNL Utility and improving access to water supply and sewerage services in Shimla city.	The SJPNL corporate entity has already been established. The PforR specifically focuses on improving the operational and financial performance of SJPNL and WSS services in Shimla city. It provides greater service delivery orientation and facilitates measurability of results.
Duration	2018-2030 in phases, first phase initiated in 2018 for Shimla.	Support for strengthening the first phase program from 2021 to 2026	-
Geographic coverage	Phased approach for all urban areas. First phase initiated in establishing SJPNL for Shimla. Subsequent phases would expand the MTP to other urban and peri-urban areas.	PforR operation targets the strengthening of the operational and financial performance of SJPNL and improving WSS services in Shimla and bulk water supply to peri-urban areas within Shimla Planning Area.	Shimla city is the capital, a major tourist center and an economic growth priority of the GoHP, especially in the context of the post COVID-19 recovery program.
Results areas	(a) Decentralized service delivery through autonomous and professional institutions. (b) Improved efficiency, financial sustainability, and accountability. (c) State-wide universal coverage of water supply and sanitation services.	(a) Improved governance, managerial and financial autonomy of SJPNL. (b) Improved efficiency, financial sustainability and customer accountability in Shimla city. (c) Improved water supply and sewerage services in Shimla city.	Strengthened policy and institutional development program for improving WSS services in Shimla city.
Overall Financing ¹⁴	MTP: US\$750 million (2018-2030) for entire State; US\$310 million (2021-2026) for Shimla city.	PforR: US\$250 million (2021-2026).	

27. The PforR Program is organized in three Results Areas¹⁵. Each results area builds on the achievements of the past two years under the DPL-1 for Shimla and aims to systematically maintain, institutionalize, and deepen prior reforms and improvements. The three results areas are: a) Improved governance, managerial and financial autonomy; b) Improved efficiency, financial sustainability, and customer accountability; and c) Improved water supply and sewerage services.

¹⁴ Details provided in Annex 2.

¹⁵ Adaptation and mitigation activities under the Program are detailed in Table 1, Annex 9.



28. Results Area 1: Improved governance, managerial and financial autonomy of SJPNL: The SJPNL will solidify best practice business planning and corporate governance, introduce performance incentives for staff and contractors, and further improve its organizational structure, inclusiveness, managerial and financial autonomy. Specifically:

(a) Strategic Business Planning and Corporate Governance Practices

(i) Under the PforR, the SJPNL will develop a Strategic Business Plan, including a Performance Improvement Plan, to help meet operational, commercial, and financial WSS performance targets. The Plan will formally identify priority measures and help inform medium term commitments from its shareholders (GoHP and SMC). The performance targets will include reducing emissions in WSS through energy efficiency, NRW reduction, and wastewater management. The Strategic Business Plan will be part of a broader effort to solidify best practice corporate governance, which will also include a code of conduct for the BoD, senior management of SJPNL, and the Independent Directors; annual compliance report from Independent Directors, full time directors and senior management; the manner of appointment and reappointment; internal delegation of powers to Board committees, managing director and others; regulatory compliances, disclosures and report on corporate governance; etc. The Independent Directors will review the implementation of the corporate governance policy. The annual corporate governance review report of the Independent directors and corrective action taken will be disclosed publicly. The Strategic Business Plan will also include milestones for development of institutional guidelines for career advancement/diversification avenues for women professionals.

(ii) The GoHP and SMC have published the WSS performance standards and the tariff and subsidy policy which provide a framework for WSS regulation in Shimla. The Strategic Business Plan, including the Performance Improvement Plan and an Annual Plan developed by the BoD, will help in achieving the agreed WSS performance standards. The Independent Directors are tasked with annual review of SJPNL performance which will be disclosed publicly. The tariff and subsidy policy of GoHP provides for automatic annual indexation to reflect cost increases. Any further tariff revision (beyond cost pass-throughs) requires the proposal by the Managing Director to be reviewed by the BoD for recommendation to the GoHP for ratification and approval. The GoHP has already approved a subsidy of up to Rs 120 crores per annum to meet the high cost of bulk water in Shimla. Activities aiming at improving commercial and financial performance are relevant from an adaptation standpoint as these will allow SJPNL to more effectively respond to climate-induced disasters. This will enable more funds channeled to infrastructure maintenance and a smaller chance of assets becoming overwhelmed or damaged during disasters such as floods.

(b) Introducing Performance Incentives: SJPNL will introduce performance incentives for both staff and contractors:

(i) GoHP and SMC has authorised SJPNL to develop a performance incentive policy for its employees. Under the project, the SJPNL will develop and implement a performance incentive policy for its staff and secure approval from GoHP. The policy will define the performance incentive that SJPNL will receive based on its performance score, and the distribution of this incentive among employees based on their performance evaluation. In addition to the performance incentive for employees, a portion of SJPNL's performance incentive will also be spent on capacity building and employee welfare. Under the PforR, SJPNL will complete the first cycle of performance assessment of employees and disburse performance-based incentives. SJPNL will include mentoring and capacity-building of junior women professionals as a key metric in the performance incentive policy for all SJPNL staff. The incentive policy would apply to all staff of SJPNL including staff on rolls of SJPNL and on contract. Performance incentives will make it easier for SJPNL to take the steps necessary to improve operational efficiency and financial sustainability, thereby also making the sector more resilient to the climate change related droughts and floods foreseen for the future, while reducing sector GHG emissions from energy use.



- (ii) All contracts of SJPNL will include relevant performance-based features, including: i) service delivery standards and sustainability standards based on agreed GoHP WSS standards; ii) competitive bidding and selection criteria based on life cycle costs including energy costs and associated GHG emissions reductions; iii) payment linked to performance, and iv) SJPNL will have full concurrent access to information systems maintained by the service providers, including customer grievance redressal mechanism and complaints database. SJPNL will enter into performance-based contracts with private operators which will include targets for service delivery and operational efficiency (e.g. continuous water supply, NRW reduction, billing and collection efficiency and grievance redressal). SJPNL has already started procurement of a performance-based contract for intra-city water distribution. The performance-based contract would be audited through an independent agency to determine performance linked payments to be made to the operator.
- (c) *Strengthening Organizational Structure and Inclusiveness:* SJPNL has already implemented the organizational structure approved under the MTP. Under the PforR the organizational structure of SJPNL will be further strengthened. An experienced General Manager will be hired from the market to oversee the day-to-day operations of SJPNL. This will provide management bandwidth to enable the Managing Director (MD) cum Chief Executive Officer (CEO) to focus on corporate objectives and the business plan. A sub-committee of the BoD (consisting of one Independent Director, SMC and GoHP representatives and the MD cum CEO) will be tasked with all employee service-related matters (appointments, fixing and revision of pay, performance incentives). This will ensure oversight and professionalism in the Human Resource (HR) management of SJPNL. The Program will also support SJPNL establish/strengthen an anti-harassment and safe working spaced committee, develop protocols aligned to the POSH Act¹⁶ and create a referral system for anonymous registration and fair redressal of complaints. The social and environment safeguards function will be strengthened by hiring dedicated social and environment safeguards experts. The communications manager will become a full-time position (at present it is part-time) and a junior communications manager will also be hired. A dedicated finance and Monitoring and Evaluation (M&E) manager will be appointed. SJPNL will increase female employment at least 30 percent. SJPNL will adopt an HR Gender Policy to implement actions to address gender issues such as special requirements for women staff, mentoring and career counselling, women only staff in GRM and billing centres, annual internship programs to train female interns etc. The proposed organizational structure is provided in Annex 4. SJPNL will also receive support from the Utilities of Future program of World Bank, by partnering with Águas de Portugal to introduce modern utility practices and climate related outcomes.
- (d) *Strengthening Managerial Autonomy:* SJPNL's BoD will continue to have full authority for all matters related to WSS and all WSS decisions will be taken by the BoD without referring to SMC and GoHP (except for legal requirements such as tariff approval). The BoD of SJPNL has issued an internal delegation of powers with managerial autonomy to the MD cum CEO and other officers of SJPNL. The PforR will strengthen the managerial autonomy by introducing internal delegation of powers below the level of the MD cum CEO, which will include the key result areas for each function (department) and staff. These will be consistent with the WSS performance targets under MTP and the performance scorecard of the SJPNL. Annual performance evaluations will be conducted and linked to the performance incentive system of SJPNL.
- (e) *Improving Financial Autonomy:* GoHP has issued a cost recovery, tariff and subsidy policy to ensure the financial sustainability of SJPNL. As per this policy, a volumetric tariff will be applied to all customers, tariffs will be adjusted automatically every year without the need for approval, and further tariff proposals will be reviewed by the BoD before submission to GoHP for approval. Subsidies will be budgeted by GoHP based on the cost recovery trajectory and provided directly to SJPNL. The focus on energy saving activities such as energy

¹⁶ The Sexual Harassment OF Women at Workplace (Prevention, Prohibition and Redressal) ACT, 2013.



efficiency measures, NRW reduction, and tariff reform will reduce inefficiencies in water supply. The PforR will support the implementation of key policy measures required for financial sustainability which includes (i) volumetric tariff for all customers (already implemented by SJPNL and all new connections under the PforR will be metered), (ii) annual indexation and automatic adjustment of tariff for change in input costs and (iii) timely release of subsidies as budgeted. Further, the PforR will also support SJPNL in modernizing its accounting practices including (a) accounting, budgeting and cash management policies and systems, (b) migrating to industry standard accounting systems (Tally or equivalent) and (c) internal audit. SJPNL will publicly disclose its audited financial statements.

29. The project's support to SJPNL's policy and institutional reforms, and associated capital investments, is in line with the "Restructuring" and "Resilient Recovery" stages of the World Bank Group COVID-19 Crisis Response Approach Paper, supporting the *Green, Resilient and Inclusive Development (GRID) Agenda*. Achieving a financially sustainable and accountable utility that provides continuous, universal water supply will be critical for public health in Shimla and will contribute to a recovery of the tourism industry which has been badly affected by the pandemic.

30. Results Area 2: Improved efficiency, financial sustainability, and customer accountability: WSS services in Shimla are one of the most expensive in India, since bulk water is pumped up over 1400- 2000 meters elevation. Therefore, efficiency in terms of water and energy use in WSS services is critical to achieve financial sustainability. The MTP emphasizes the need for reduction of energy consumption and NRW, along with implementing demand side measures such as increasing block volumetric tariff and 100% metering, which are expected to lead to GHG emission reductions. The WSS services rely on extensive GoHP subsidy at present which will continue, but SJPNL is required to improve O&M cost recovery so as to limit the growth in subsidy requirement in the future. Strengthening of the grievance redressal mechanism is also required. The consumer's willingness to pay for WSS services will help make operations economically sustainable and make it easier to invest in O&M, thereby raising the reliability of services and the beneficiaries'/WSS sector's resilience to climate-related shocks. Under the PforR, the SJPNL will build on these initiatives to achieve the agreed results:

- (a) *Energy efficiency improvement and NRW reduction:* The energy consumption per unit of water distributed will improve by 20 percent, that is, from 13 KWH of energy consumption per kiloliter (KL) of water delivered at the balancing reservoir to 10.4 KWH per KL, through a package of electrical and hydraulic measures in bulk water pumping and transmission under the Government program. Under the PforR, the performance contracts for the distribution system will reduce NRW by 15%. Reduction in physical leakages will reduce the quantum of water required to be pumped, thereby reducing energy consumption and associated GHG emissions. Reduction of apparent losses and demand side measures will increase revenue realised. The Program will upgrade the existing mechanical meters to Smart Meters for automatic meter reading and real time monitoring of water consumption. Reducing water leakages will increase water availability for the residents and tourists and help them enhance their resilience to climate change exacerbated droughts/water shortages, and increased temperatures. Water metering systems are expected to result in more rational water consumption and increased water savings, thus increasing adaptation co-benefits.
- (b) *Commercial and financial improvements:* The GoHP subsidizes WSS services at present and has committed to continue the subsidies since bulk water is expensive in Shimla and full O&M cost recovery is not considered possible. The implementation of WSS program is expected to increase WSS O&M costs due to increase in bulk water production and wastewater treatment. Therefore, to ensure that the gap in cost recovery is within the committed subsidies, SJPNL is required to improve O&M cost recovery. Billing and collection efficiency will improve with a new software for improved facilities for on-line payments. An index to measure the operating efficiency of SJPNL will be developed and tracked. It will include NRW, Energy Efficiency, water consumption data, and cost recovery. The BoD of SJPNL will apply these efficiency targets before recommending tariff



revisions for SJPNL. Automatic annual indexation of tariff along with incentives for improving operational efficiency will increase O&M cost recovery to above 50% in 2026 as compared to 21% at present and increase intra-city O&M cost recovery from 120% at present to 175% by the end of the Program. SJPNL will also carry out detailed financial forecasts under the Program. Automatically adjusted water service tariffs are expected to lead to more rational consumption of water, reduced operating costs, and reduced vulnerabilities to the effects of water shortages and climate change-induced weather events such as droughts and floods.

- (c) *Accountability of WSS services:* The PforR will support SJPNL to establish a comprehensive M&E system, building on its existing system. It will also support SJPNL in systematic customer surveys and feedback.
 - (i) *M&E system:* SJPNL will strengthen its existing M&E system to comprehensively track service delivery, operational, financial and customer satisfaction metrics. The SJPNL will develop utility systems and databases to collect performance data. SJPNL will also follow a protocol for regular reporting and disclosure of performance. Disaggregated performance of service delivery of SJPNL for various customer groups, including poor and vulnerable sections will be gathered. Reporting and disclosure will place special emphasis on sharing information with the SMC, and poor and vulnerable sections. Quarterly monitoring of project activities will be carried out by Independent Directors and corrected actions suggested.
 - (ii) *Grievance Redress Mechanism and customer feedback:* Annual customer surveys will be conducted to assess satisfaction with service delivery and involvement of women in identifying and addressing issues. SPNL will be scored on a scale of 1 to 10 based on the customer feedback with 1 denoting least satisfaction and 10 the highest satisfaction. The results will track customer satisfaction for WSS services. The SJPNL will target an overall score of at least 70% in the customer satisfaction survey and for 90% of the WSS complaints to be redressed within the specified redressal period.
 - (iii) *Disclosure of performance:* SJPNL will publish a detailed Annual Report, including Audited Financial Statements and Citizen Report Card results. The GoHP has issued performance standards for WSS, based on which SJPNL has finalised a performance scorecard which will evaluate SJPNL on a) customer service, b) financial performance and efficiency, c) organizational processes and modernization, and d) implementation of the investment plan.

31. Results Area 3: Improved water supply and sewerage services: The existing WSS services provide intermittent water supply of 2 to 3 hours daily and 60% coverage through sewerage network. Under the proposed Program, the SJPNL will provide safely managed and improved WSS services targeting 24/7 supply for all residents and 100% coverage with sewerage network. New assets for water distribution and sewerage network will be built and will incorporate resilience principles. SJPNL will also implement digitised WSS management systems. Improving water supply will strengthen beneficiaries' resilience to water availability shocks (water shortages/droughts, and extreme temperatures). Improving sewerage services will reduce the volume of untreated wastewater discharged into water bodies as well as exposure to uncollected wastewater, waterborne pathogens, and related diseases, increasing beneficiaries' resilience to climate change exacerbated threats. Specifically:

- (a) *Service Improvement and Asset Management:* Under this Results Area, SJPNL will improve service quality. SJPNL is already implementing continuous water supply initiatives in three demonstration zones and the distribution network for 24/7 supply will now be extended to all zones, across the entire city. SJPNL will also expand the sewerage network. About 100 kms of sewer network will be added in uncovered areas. A water quality lab will be constructed for more frequent and accurate quality monitoring. Water storage reservoirs will be provided with water quality sensors and automated distribution arrangements. Performance-based contracts (see Results Area 1) will also help improve and maintain service standards. The performance-based contracts include criteria linked to climate-related elements for efficient energy and water use. SJPNL's proposed partnership



under the Utilities of the Future program of the World Bank will provide support for introducing comprehensive asset management systems. This will help categorize and rehabilitate existing bulk water assets and implement energy efficiency improvements. Under the PforR Program, SJPNL will organize technical workshops and information dissemination campaigns for women entrepreneurs, women-owned businesses to encourage bids from localized women business owners for the water supply and sewer network to be added in uncovered areas.

- (b) *Digitalization of WSS management systems:* To improve service quality and asset management, the PforR will support SJPNL to digitize its WSS management systems. A water distribution management system is proposed for the water supply system. The PforR would provide electromagnetic/ultrasonic bulk meters, flow control valves, pressure reducing valves and measuring instruments like pressure gauges for the water supply system. This system will also be compatible with the Supervisory Control and Data Acquisition (SCADA) system being provided for bulk water operation under the Government program. In addition, SJPNL will build critical digital assets using geospatial data like a Geographic Information System (GIS)-linked customer database, asset database, billing and collection database, IT applications for accounting, costing and budgeting and customer relations. Under the PforR Program, SJPNL will prioritize recruitment and training of young women professionals in utilization and management of digital assets, systems and databases.

32. The project's support of SJPNL's progress towards universal, continuous 24/7 water supply and sewerage access is in line with the World Bank COVID-19 Crisis Response Approach Paper "Relief" Stage that recognizes water and sanitation services as an emergency public good, that is, a key element of the public health response to COVID-19. Similarly, WHO guidance stresses that "frequent and correct hand hygiene" – which depends on universal and continuous access to water and soap – "is one of the most important measures to prevent infection with the COVID-19 virus".

Table 2: Program Financing Summary

Source	Amount (USD million)	% of Total
International Bank for Reconstruction and Development (IBRD)	160	64
Government of Himachal Pradesh (GoHP)	90	36
Total Program Financing	250	100

D. Program Development Objective(s) (PDO) and PDO Level Results Indicators

33. The PDO is to strengthen the operational and financial performance of the SJPNL Utility and improve access to water supply and sewerage services in Shimla City.

34. The Program will have a five-year implementation period (2021-2026). The PforR operation will support the GoHP's MTP for improving WSS services, benefitting at least 3.4 million people in Shimla (residents and annual tourists) by December 2026. The following outcome indicators will be used to measure achievement of the PDO:

- (a) SJPNL strengthened as an autonomous WSS Company.
- (b) SJPNL achieves operational efficiency and financial sustainability: (i) SJPNL improves energy efficiency by 20%; (ii) SJPNL reduces Non-Revenue-Water by 15%; (iii) O&M Cost Recovery in water distribution is at least 175%; and
- (c) Number of people benefitting from improved WSS services (i) Number of people having access to continuous water supply; (ii) Number of additional people provided with sewerage services.



E. Disbursement Linked Indicators and Verification Protocols

35. **Disbursement-Linked Indicators (DLIs).** Progress toward the PDO will be measured through a set of indicators. The Results Framework is provided in Annex 2, and a detailed description of each DLI and the associated verification protocol is included in Annex 3. In this section, the DLIs are presented in summarized form.

Table 3: Results Areas and Associated DLIs

Results Area	PDO Indicators	Disbursement Linked Indicators	Other Results Indicators
I. Improved governance, managerial and financial autonomy of SJPNL	SJPNL strengthened as an autonomous WSS Company.	1. SJPNL implements performance-based payments to the private water supply operator.	(i) At least 80% of SJPNL employees receive incentives as per the performance incentive policy. (ii) At least 30% women employed as contractual staff in SJPNL. (iii) Five-year business plan approved and adopted. (iv) HR policies reviewed and revised to promote gender equality in the workplace.
II. Improved efficiency, financial sustainability, and customer accountability	SJPNL achieves operational efficiency and financial sustainability: (i) SJPNL improves energy efficiency by 20%; (ii) SJPNL reduces Non-Revenue-Water by 15%; (iii) O&M Cost Recovery in water distribution is at least 175%.	2. SJPNL improves energy efficiency in water supply by 20%. 3. SJPNL reduces Non-Revenue-Water by 15%. 4. SJPNL indexes tariff annually as per tariff policy. 5. SJPNL achieves at least 175% O&M cost recovery in water distribution. 6. SJPNL receives an annual performance score of at least 3 out of 5.	(v) SJPNL redresses at least 90% WSS grievances within the specified period. (vi) Percentage of 24/7 customers billed on volumetric basis. (vii) SJPNL scores at least 70% in customer satisfaction survey. (viii) Annual Report, including Audited Financial Statements and Citizen Report Card, published and disclosed.
III. Improved water supply and sewerage services	Number of people benefitting from improved WSS services (i) Number of people having access to continuous water supply; (ii) Number of additional people provided with sewerage services.	7. Number of people benefitting from improved WSS services: (7.1) Number of people having access to continuous water supply; (7.2) Number of additional people provided with sewerage services.	(ix) Percentage of water quality samples meeting standards. (x) Percentage of STP effluent samples meeting standards.

36. **The DLIs reflect the core priorities of the WSS reform program in Himachal Pradesh and provide incentives to deepen the governance and performance improvements achieved by SJPNL over the past two years.** The DLI#1 supports corporate governance and performance orientation in SJPNL, while DLIs #2 to #6 incentivize crucial aspects of utility performance, notably operational efficiency and financial sustainability. DLI# 7 focusses on expansion of high-quality water and sewerage services. The design of the specific DLIs was informed by (a) the importance of the activity, output, or outcome in the results chain; (b) the need to introduce a financial incentive to deliver specific activities, outcomes, or outputs; (c) measurability and ease of verification; (d) emphasis on results orientation and citizen accountability (e.g. non-revenue water reduction, citizen satisfaction score) targets; and (e) the capacity of SJPNL to achieve the DLIs in a timely manner during the implementation period of the Program. Collectively, the seven DLIs



are designed to reinforce the SJPNL's ongoing reforms, and to achieve the PDO. Further details are given in Annexes 2 and 3.

37. DLI #1 will strengthen SJPNL's corporate governance practices in line with Results Area 1.

- *DLI #1: SJPNL implements performance-based payments to the private water supply operator:* SJPNL will engage the private sector to strengthen its ability to provide high-quality services. The award of performance-based contracts for intra-city water distribution incentivized by this DLI constitutes an important step towards this goal. The contracts will be based on performance-based payments conditioned on achievements of continuous pressurized water supply, NRW targets and efficiency in redressal of customer complaints. An independent agency will determine the performance-based payments based on an audit of operator performance.

38. DLIs #2 to #6 will incentivize the progressive improvement in SJPNL's operational efficiency and financial sustainability in alignment with Results Area 2.

- *DLI #2: SJPNL improves energy efficiency in water supply by 20%.* Energy efficiency is particularly important due to the high costs of fuel and electricity, which account for more than 75 percent of SJPNL's O&M expenses, and their implications for greenhouse gas emissions. SJPNL's reliance on GoHP subsidy is also directly linked to the high cost of pumping bulk water. Under DLI #2, SJPNL will receive incentives for reduction in energy consumption for every unit of bulk water delivered to the reservoirs. SJPNL is targeting a reduction of at least 20% in energy consumption of water delivered at the balancing reservoir.
- *DLI #3: SJPNL reduces Non-Revenue-Water by 15%.* Program will incentivize reduction of NRW. Leakage of water is a significant cause of high NRW, resulting in increased bulk water pumping to offset the losses, which in turn results in high energy consumption. Under DLI #3, SJPNL will receive incentives for reducing NRW levels by at least 15%. Reduction in NRW will also increase revenue and decrease the requirement for GoHP subsidies.
- *DLIs #4: SJPNL indexes tariff annually as per tariff policy.* This DLI incentivises routine tariff indexation to offset cost increases. A systematic cost recovery, tariff and subsidy policy has been put in place by GoHP under which the BoD of SJPNL is authorized to index tariff annually. This will offset routine cost increases without the need for seeking elaborate administrative approvals from SMC and GoHP. This provision for tariff indexation was exercised in April 2019. The indexation due in April 2020 was suspended due to COVID-19 impact on citizens and the BoD intends resuming the indexation once the COVID-19 impact has subsided. DLI #4 will track the continued adherence to the annual indexation practice.
- *DLI #5: SJPNL achieves at least 175% O&M cost recovery in water distribution.* This DLI addresses cost recovery which is critical to the long-term sustainability and autonomy of SJPNL. NRW and energy efficiency will reduce production costs and revenue loss. DLI #4 will incentivize routine tariff indexation. In addition to these, efficient billing and collection are also needed to improve revenues. SJPNL has already installed meters in all connections and implemented 100% volumetric billing. A new billing and collection software has been installed. DLI #5 will track the improvement in O&M cost recovery in water distribution. GoHP will continue to provide subsidies for bulk water.
- *DLI#6: SJPNL receives an annual performance score of at least 3 out of 5.* Led by the Independent Directors of SJPNL's BoD, SJPNL will undergo an annual performance scoring exercise following a set methodology that will rate the utility's performance based on the following key factors: (a) Customer Service (30%) (b) Efficiency (20%) (c) Organizational Systems (20%) (d) Completion of Capital Investment Plan (30%). The score will range from 1 (lowest) to 5 (highest) and will provide a cross-cutting assessment of SJPNL's performance, directly incentivized through the DLI.



39. DLI#7 supports expansion of access to continuous water supply and sewerage services in line with Results Area 3.

- **DLI#7: SJPNL achieves improved water supply and sewerage services - (a) number of people having access to continuous water supply; and (b) number of additional people having access to sewerage services.** The indicator directly incentivizes the core task of the utility – making high-quality, continuous services available to more customers. Disbursements will be linked not only to the establishment of additional connections (both water supply and sewerage connections), but also their continued functionality (i.e. in the case of water, maintenance of continuous 24/7 water supply) over the project duration. Continuous piped water supply remains rare in urban India and there are few functioning STPs.

40. Verification protocol. The DLIs will be verified through a combination of data sources detailed in Annex 3. An Independent Verification Agency (IVA) has been hired by the SJPNL and will be responsible for the annual verification of the DLIs. Verification of all DLIs will be carried out in accordance with an agreed verification protocol (see Annex 3).

III. PROGRAM IMPLEMENTATION

A. Institutional and Implementation Arrangements

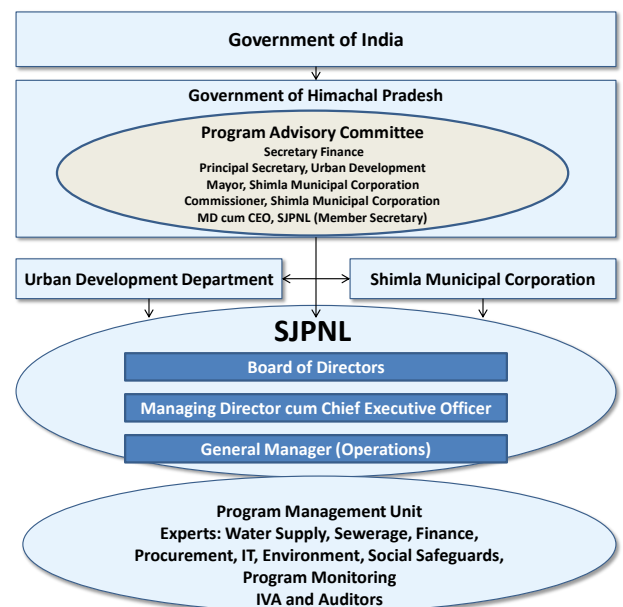
41. The implementing agency for the Program will be the Shimla Jal Prabandhan Nigam Limited (SJPNL). The SJPNL has the mandate to provide WSS services in the city of Shimla.

SJPNL will be responsible for all Program related activities including planning, procurement, management and monitoring. It will be responsible for financial control and management and citizen engagement, including GRM. SJPNL has well established corporate governance procedures. SJPNL has a Board of Directors chaired by the Chief Secretary and includes senior officers from GoHP and SMC along with Independent Directors. SJPNL is headed by a Managing Director who has been appointed with a minimum tenure of two years. It has established corporate governance practices conforming with the GoI requirements for incorporated companies. SJPNL is responsible for achieving the results under the Program and for independent verification of the results.

42. The Urban Development Department (UDD) of the GoHP will be the nodal department for the Program.

As joint shareholders of SJPNL, the UDD and the SMC will jointly support the Program. They have already approved the WSS MTP of the GoHP which includes policies such as the tariff, subsidy, and cost recovery policy. They have also delegated all powers for WSS in Shimla to SJPNL. The GoHP will establish a Program Advisory Committee (PAC) to advise the BoD on the implementation of the Program and achievement of the agreed WSS standards. The PAC will meet on a quarterly basis to review the implementation progress and provide suggestions for improving performance. The PAC will comprise Secretary Finance, Secretary UDD, Mayor SMC, Commissioner SMC, and the MD-cum-CEO SJPNL.

Figure 2: Implementation Arrangements





43. SJPNL will have a dedicated Program Management Unit (PMU) under the MD-cum-CEO, comprising of sector experts for implementing the project, including water supply, sewerage, finance, procurement, IT, Environment, Social Safeguards, Program Monitoring, Independent Verification Agency (IVA) and auditors. SJPNL will further strengthen its capacity by engaging two global experts for advising on technical and utility management. It is also being supported by Aguas de Portugal WSS Utility under the World Bank's 'Utilities of the Future' Program. The SJPNL has already entered into a private sector contract for augmenting bulk water supply. It is planning to strengthen its implementation capacity by entering into performance-based contracts with the private sector for intra-city water supply and sewerage service improvement program.

B. Results Monitoring and Evaluation

44. *Monitoring, evaluating, and disclosing the progress of actions and results is an important component of the Program.* The GoHP has specified performance standards for WSS. The results for Shimla city are the responsibility of the SJPNL and will be monitored by the Board of Directors. The Board will set internal performance targets and annual performance reviews will be conducted by the Independent Directors on the Board. The SJPNL will also be audited by independent auditors. The performance of service providers will be reviewed annually. The SJPNL will develop the data collection and reporting systems required to monitor results and will collect disaggregated service delivery status for various customer groups, specifically the poor and vulnerable. The SJPNL will be responsible for implementing the customer database, and monitoring systems, billing and collection systems, and grievance redressal mechanism. In addition, regular customer surveys will be conducted by SJPNL. The results of surveys, citizen report cards, performance reviews audits and other relevant information will be disclosed to the public. This program will pave the way for strengthening the monitoring of results in the WSS sector across Himachal Pradesh.

45. *Citizen Engagement and Communications Program.* SJPNL will carry out a citizen engagement and communication program to get feed-back on the design and implementation of the policies, institutional development and WSS service delivery improvement program for Shimla city. SJPNL will follow a protocol for regular reporting and disclosure of performance to all stakeholders, especially the SMC councilors, domestic and non-domestic customers, and the poor and vulnerable sections. SJPNL will implement a grievance redressal mechanism, social outreach, annual customer satisfaction surveys and citizen report cards. The program will have a communication strategy to engage with customers, including at least two public consultations each year on performance data and citizen feed-back. SJPNL will also engage a professional agency to conduct direct outreach with citizens with the aim of identifying and addressing concerns of stakeholders, as well as facilitating behavior change in users that might be needed to optimize benefits from a 24/7 water supply. Other activities to promote citizen engagement include the strengthening of the eleven water bill collection centers across the city, publication of the Citizen Charter on the SJPNL website, development of Water Payment App, deployment of Jal Sakhis / women volunteer groups and other women teams for spreading messages on water conservation.

46. *Grievance Redress.* Communities and individuals who believe that they are adversely affected by specific country policies supported under the World Bank Operation may submit complaints to the responsible country authorities, appropriate local/national grievance redress mechanisms, or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address pertinent concerns. 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/GRS>. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.



C. Disbursement Arrangements

Financing Allocation for the DLIs¹⁷

47. The allocations to each DLI have been agreed with GoHP based on the relative importance of each DLI in achieving the overall Program objectives and the need to align the scale of financial incentive with the effort required to achieve the DLIs (Table 4). Of the total PforR amount of US\$ 160 million, 12% is allocated to Result Area 1 (DLI # 1) on improved governance, managerial and financial autonomy of SJPNL, 58% to Result Area 2 (DLIs #2 to #6) on improvements in operational efficiency, financial sustainability, and customer accountability, and 30% to Result Area 3 (DLI#7) on improved water supply and sewerage services. The disbursements under DLI#2, DLI#3, DLI#5 and DLI#7 are fully scalable and the disbursements will be proportional to the progress towards achieving the targeted DLI value. Where actions are not achieved in any year, the allocated amount will be carried over to the subsequent year until the corresponding results are achieved¹⁸.

Table 4: DLI Financing Allocation

	Disbursement Linked Indicators	PforR Financing Allocated to DLIs (US\$ million)	PforR Financing (%)
1	SJPNL implements performance-based payments to the private water supply operator	18.8	12%
2	SJPNL improves energy efficiency in water supply by 20%	19.2	12%
3	SJPNL reduces Non-Revenue-Water by 15%	19.2	12%
4	SJPNL indexes tariffs annually as per tariff policy	19.2	12%
5	SJPNL achieves at least 175% O&M Cost Recovery in water distribution	19.2	12%
6	SJPNL receives an annual performance score of at least 3 out of 5	16	10%
7	Number of people benefitting from improved WSS services		
7.1	Number of people having access to continuous water supply	32	20%
7.2	Number of additional people provided with sewerage services	16	10%
	<i>Front-end fee (0.25% of IBRD loan amount)</i>	<i>0.4</i>	
	Total	160	100%

Fund Flow and Accounting

48. The state will allocate a budget to SJPNL every year based on its action plan which will include the amount of the expected DLI disbursement for the year. The state will budget for both its share and the World Bank share under the budget head of the Externally Aided Projects under the Urban Development Department (UDD). Funds are expected to be spent by SJPNL and will be transferred to SJPNL's bank account from where the Program expenditure would be met. The first tranche of budget and fund flow will be transferred without conditions by the Finance Department. However, for subsequent tranches the UDD will be required to submit utilization certificates for 60 percent of the earlier releases as per the state General Financial Rules. The SJPNL (under the UDD) will be responsible for collating expenditures and maintaining details of the actual expenditure under the Program. When DLI is achieved, the corresponding DLI amount will be disbursed by the Bank to the Government of India after verification of results. The amount of DLI disbursed by the Bank will be transferred to SJPNL through GoHP/ UDD, on a back-to-back basis to ensure adequate liquidity.

¹⁷ Financing allocation includes front-end fee for the Loan.

¹⁸ The disbursement schedule follows GoI fiscal year, starting with FY 2022 (i.e. April 1, 2021 to March 31, 2022).



D. Capacity Building

49. *The capacity building program aims at strengthening the technical, managerial, and financial capacities of the SJPNL.*

The SJPNL is committed to developing professional staff through on the job training and training programs. The main aim of the capacity building program will be to facilitate reforms at three levels: firstly, the development of knowledge and competencies of the staff; secondly, support to the development of organization and its systems; and thirdly strengthening the enabling environment. These activities will also help improve utility preparedness in the face of climate change and enhance beneficiaries' resilience to climate change related risks and impacts. To achieve these aims, the capacity building program has been grouped into two categories: day-to-day technical operations and other aspects of utility management. The key aspects of the capacity building program are as follows:

- (a) *Technical Aspects of Capacity Building:* Technical capacity building will improve SJPNL's ability to (i) design WSS services in-house (e.g. distribution network extensions); (ii) carry out O&M of its systems including professional asset management; (iii) adopt techniques and strategies to reduce non-revenue water; (iv) monitor and manage water and effluent quality; (v) achieve Operational and Energy Efficiency; (vi) manage Digital Tools to improve utility management (GIS, SCADA etc.); and (vii) strengthen systems resilience (e.g. emergency planning).
- (b) *Utility Management Aspects of Capacity Building:* These trainings will develop management capacity across core departments including financial management, business planning, HR management, Environmental and Social Governance, contract management, performance monitoring, and customer orientation and grievance redressal.

50. *International Utility Experts:* SJPNL will be strengthened with two international utility experts - a technical expert who will guide the technical capacity program and a management expert who will guide the utility management aspects. Their key tasks will include advice on technical, commercial and financial practices. Their engagement will ensure that most critical needs of the SJPNL in terms of capacity are identified and addressed on time.

51. *Development of a WSS Resource Center:* SJPNL will establish a resource center to carry out training programs for internal and external stakeholders. This will include (a) an E-library containing a comprehensive database of relevant documents for water utility management, (b) Training center for SJPNL staff and other WSS utilities, (c) Communities of practice for utility professionals: virtual platforms to connect with its peers at the national and international level.

IV. ASSESSMENT SUMMARY

A. Technical (including program economic evaluation)

52. *Strategic Relevance:* The proposed operation forms part of the COVID-19 response and also addresses key long-term challenges identified both by GoHP's own assessments¹⁹, which advocate a comprehensive focus on policy and institutional reform for improving services, and by a study commissioned by the World Bank²⁰ on Shimla and the WSS sector in Himachal Pradesh. This institutional study outlined a pathway to reform including corporatization, ownership and management options, clustered development, a cost recovery roadmap and regulatory mechanism. The PforR Program is consistent with these strategic studies and consultations by emphasizing a departure from the traditional focus on infrastructure creation in favor of a) WSS policies for operational and financial sustainability, b) WSS institutions with autonomy and performance orientation, c) service delivery and accountability to WSS customers. A follow-up consultation workshop with WSS experts and several partner utilities, organized by the World Bank have

¹⁹ Report of the committee chaired by Additional Chief Secretary (Health), 2016, GoHP.

²⁰ Institutional Options Study for the Proposed Greater Shimla Water Supply and Sewerage Project, 2018.



guided GoHP on calibrating its strategic roadmap. The operation is also well aligned with the National Water Mission's objective of conserving water, minimizing wastage and ensuring equitable distribution²¹.

53. Technical Soundness: The proposed PforR operation has been developed based on the lessons of the ongoing reforms in Shimla under the DPL-1, including extensive consultations with stakeholders in several workshops. The proposed targets under the PforR are a coherent, technically sound extension of prior achievements of the ongoing reforms in terms of institutional autonomy of SJPNL, its organizational structure and human resource capacity, and the utility's corporate governance and performance focus, notably in terms of key service improvement targets such as continuity of supply, loss reduction, and customer orientation, as well as important sustainability challenges such as energy efficiency. The PforR is embedded in the overall GoHP's WSS MTP and constitutes a logical next step to entrench and deepen reforms in Shimla prior to a possible expansion of SJPNL's services to additional towns. The GoHP has already undertaken in-depth consultations on such a possible expansion in order to ensure its technical and institutional coherence with ongoing reforms in Shimla.

54. OP 7.50 on International Waterways: The activities financed under the Program are limited to rehabilitation, minor expansion, and improvement of the existing WSS system and will not adversely change the quality or quantity of water flows to other riparians of the Sutluj River. The task team has determined that the Program activities fall within the exception to the notification requirement under paragraph 7(a) of OP 7.50 and that riparian notifications are not required. The exception was approved by the RVP on March 31, 2021. (details of activities in Annex 4).

55. Fiscal Analysis: *The proposed program is unlikely to significantly detrimentally impact the fiscal position of the state. Himachal Pradesh has historically followed a prudent fiscal stance.* Himachal Pradesh has had a revenue surplus since FY 16 and the fiscal deficit has averaged about 2.8 percent of Gross State Domestic Product over that period, only exceeding the 3% limit in FY16/17 due to Ujwal DISCOM Assurance Yojana – UDAY. However, the economic slowdown in FY19/20 and the impact of the COVID-19 pandemic in FY20/21 has led to a deterioration in state finances, with the deficit increasing to 3.4 percent and 4.6 percent of GSDP respectively. Nonetheless, the state's finances have been bolstered by the revenue deficit grants awarded by the 15th Finance Commission. Furthermore, the program financing of US\$250 million over five years is small relative to total average expenditures of the government of US\$ 4.7 billion, on average, yearly between FY16 and FY20.

56. Financial Analysis: *The Program supports SJPNL in strengthening its financial autonomy with a roadmap for improving O&M cost recovery through tariffs and committed subsidies for bulk water.* It is poised to achieve significant improvements in service levels, including moving from intermittent supply to city-wide 24/7 water supply and 100% sewerage connections. The financial analysis shows that while the WSS O&M costs projected in FY 26 in the absence of efficiency measures are double the costs in FY 20, the Program incentivizes several operational efficiency improvements, including reduction of NRW by 15% and energy efficiency improvements by 20%, thus moderating the water production requirements and the cost of production. As a net effect of these measures, the WSS cost in FY26 are brought down to 1.3 times FY20 costs as compared to 1.98 times without the operational efficiency improvements.

57. In addition, the revenue collection improves as a result of the new volumetric tariff and subsidy policy. The conversion of shared connections which were paying a single flat monthly charge to individual connections improves the billing and collection. The tariff is also automatically indexed every year. As a result of these measures, the revenue in FY26 is 2.5 times the FY20 revenue. Without these measures, revenue in FY26 would have been only 1.43 times of FY 20 revenue. The operational efficiency improvements and the volumetric tariff and subsidy policy help in improving O&M cost recovery for SJPNL (details in Annex 4).

²¹ National Action Plan on Climate Change (2008).



58. **Economic Analysis: *The Program is expected to provide significant economic benefits through policy and institutional development reforms and WSS service delivery improvements.*** Based on a detailed benefit-cost analysis, the Economic Rate of Return (ERR) for the Program is estimated at 25.3%. The benefit-cost analysis of the proposed Program has been carried out based on inputs from household surveys and focused group discussions with stakeholders. The likely quantifiable direct and indirect benefits due to the proposed Program interventions are: (i) *Benefits due to reduction in operational costs:* The Program targets reduction in NRW and improvements in energy efficiency leading to savings in O&M costs. (ii) *Benefits due to incremental water supply:* With the Program interventions, the availability of treated and potable water in Shimla is expected to increase from 40 MLD currently to 60 MLD by 2030 and 107 MLD by 2050. (iii) *Benefits due to savings in coping cost:* The Program is expected to reduce / eliminate the usage of water tankers in Shimla and increase resilience to climate change impacts. It is estimated that 10% households seek services from water tankers once a month. The non-domestic customers, especially hotel, institutional and construction customers will benefit the most due to their much higher dependence on tanker supply. The hotels and commercial connections serve the annual tourist population of 3.2 million in FY20, which is estimated to increase to 5 million in FY50. Additionally, the program will reduce the domestic cost for water storage tanks, water purification system and the annual cost of water purification. (iv) *Health benefits from improved water supply:* The improvement in water quality will result in health benefits due to reduction in diseases associated with poor quality of water for resident population as well as tourists in Shimla. Epidemics of vector-borne and water-associated diseases in Shimla are likely to become worse under climate change, due to both increased temperatures and increased flood occurrence, expanding the geographic range and the seasonality of events and associated vectors (mosquitoes) and conditions (flood waters, unsanitary conditions). The analysis considers expenditure incurred on treatment of diseases and the opportunity cost of indirect person days lost due to disease and disability-adjusted life years (DALYs). It includes the sum of years lost due to disability and premature mortality, obtained from WHO estimates (2016). The assessment considers benefits in reduction of diarrhea, hepatitis, dengue, and malaria.

59. The sensitivity analysis indicates that the Program can absorb 20% increase in total costs (capex + opex) and 20% decrease in overall benefits and yet result in a positive ERR of 13%. The Program can also absorb a 50% reduction in tourists and yet result in a positive ERR of 12.2%. The ERR is a conservative estimate since benefits that are more difficult to quantify have not been included, such as benefits from strengthening the SJPNL institution, policy and M&E systems, customer accountability and grievance redressal mechanism, etc. (Annex 4).

B. Fiduciary

60. **A *Fiduciary Systems Assessment (FSA)* has found the Program fiduciary systems adequate for achievement of the Program objectives.** The implementing entity SJPNL functions under the robust corporate governance and financial accountability requirements of the Companies Act 2013, applicable to all companies in India. The FSA is focused on determining whether the government systems provide reasonable assurance that Program funds will be used for the *intended* purpose and that principles of economy, efficiency, effectiveness, transparency, and accountability will be maintained. Program FM systems have been assessed for the effectiveness of planning, budgeting, accounting, internal controls, funds flow, financial reporting, and auditing. SJPNL Procurement Systems were assessed for effectiveness of the planning, bidding, evaluation, contract award, and contract administration procedures and found to have processes and procedures for effective implementation of the Program with fiduciary risks identified and proposed for mitigation.

61. Main risks identified include the following: SJPNL is reliant on GoHP rules governing procurement and is yet to develop its procurement policy; it does not prepare and publish procurement plans; it does not have a formal procurement complaints management system; it does not disclose procurement information; there are no debarment provisions; and procurement audits are not conducted. Actions to mitigate these risks have been included in Program



Action Plan (PAP). With implementation of these mitigation measures (Annex 8), fiduciary systems of SJPNL are considered adequate to provide reasonable assurance that Program funds will be used for the intended purpose. The FSA has also assessed how Program systems address risks of Fraud & Corruption and enable redressal of complaints.

62. SJPNL is the main entity implementing the Bank Program in HP. The SJPNL was incorporated in June 2018 and has since achieved the following: (a) implemented an off-the-shelf financial accounting software; (b) established an independent board with adequate delegation of powers; (c) guided operations by a financial management manual under Generally Accepted Accounting Principles; (d) used an IT solution for billing and collection; and (e) audit report for FY 19-20 has been issued by a Chartered Accountant firm appointed by the CAG.

63. Areas requiring further attention are: (a) strengthening of the financial management function by hiring of chartered accountants in full time staff capacity; (b) implementation of a robust Cost Accounting System to support decision making, backed by identification and apportionment of operational costs; (c) strengthening of corporate governance aspects such as operationalization of an audit committee; (d) making Internal Audit robust and effective; and (e) strengthening disclosure of information.

64. Applicability of the World Bank's Anti-Corruption Guidelines to the Operation. This Program will be subject to 'Guidelines on Preventing and Combating Fraud and Corruption in Program-for-Results Financing' dated February 1, 2012 and revised on July 10, 2015. As there is no distinction between WB-financed and government-financed activities within the Program, these guidelines shall be applied in an unrestricted manner on all activities within the 'Program Boundary' of the PforR operation. In order to operationalize implementation of the various areas covered in the ACGs, the MD cum CEO office of SJPNL shall maintain and compile a quarterly report of complaints related to the Program and share it with the Bank (based on the agreed format incorporated in the POM); incorporate the Bank's listing of ineligible firms in the filter used by Implementing Agencies when they conduct due diligence. This list is available at the following website: <http://www.worldbank.org/debarr>. incorporate into the filter mentioned above the Bank's suspension list that will be obtained from the WB team by the Program Team periodically. Report on quarterly basis stating that none of the contract awards under the Program are made to any of the ineligible / suspended firm.

C. Environmental and Social

65. The strengthening of ongoing WSS policy and institutional programs and infrastructure activities under the proposed Program are not likely to have any significant adverse social or environmental effects. The proposed Program is expected to have positive effects for both resident and tourist population, that include reduction in coping costs of collection and treatment of water and instances of waterborne diseases, especially benefitting the poor; increase in coverage and quality of service to the consumers; effective engagement of key stakeholders through a communication strategy; establishment of monitoring systems and effective redressal of grievances. The Program will involve civil works such as laying and repair of water supply distribution, sewage disposal pipeline networks, water quality labs, storage tanks and resource center. In addition, GHG emission reductions resulting from NRW reduction and energy efficiency will add to the environmental benefits.

66. The environmental risk screening revealed that the Program will have only minor, reversible environmental impacts arising from the civil works. In line with the World Bank Guidance, the assessment of environmental effects included a desk review of relevant systems documents, meetings with SJPNL and other departments / agencies (virtual due to COVID-19 constraints), community meetings, state/city level stakeholder consultation workshop on December 17, 2020, and analysis of all collected information to arrive at the recommendations. The ESSA focused on environmental and social management systems (Core principle #1), natural habitats and cultural properties (Core principle #2), public and worker safety (Core principle#3), land acquisition and livelihoods (Core principle #4), and the needs and concerns of vulnerable groups (Core principle #5. The ESSA examined the borrower's systems – both



regulatory and SJPNL – and identified gaps for strengthening systems and capacities that are included in the PAP. ESSA confirmed the consistency with the core principles, and the exclusion of activities ineligible for PforR financing.

67. *On environmental risks and impacts, the construction-related concerns will be temporary, reversible and minor.* As the proposed WSS infrastructure under the Program has included only water supply distribution pipelines and sewerage network, the likely impacts/risks will be limited. These may include (i) possible accidents or incidents due to the undulating nature of the terrain in Shimla, (ii) storage, transport and disposal of construction debris / waste, (iii) temporary impacts of water or sewerage leakages at the time of laying the pipeline network and (iv) health risks to workers and community, particularly in the context of the prevailing COVID-19 pandemic, due to negligence of worker safety and health standards during construction. These can be managed through strengthening EHS in contract management, and effective supervision. As the initiatives under the Program are aimed at improved governance, enhanced resilience, efficient and accountable WSS services, broader benefits to the environment outweigh these low-to-moderate risks.

68. *On borrower's regulatory systems, the agencies such as the State Pollution Control Board and their compliance procedures are streamlined.* SJPNL has the capacity to address regulatory standards and procedures. There is also basic capacity within SJPNL for managing construction related EHS issues. Gaps in bidding processes and provisions on EHS will be addressed through the proposed capacity strengthening activities (PAP, Annex 8). These will also include streamlining monitoring and progress reporting on EHS during civil works implementation.

69. *The Program will have major positive social impacts as it will improve WSS services during the COVID-19 period and is expected to reduce water-borne diseases, leading to health benefits and savings in costs and time.* The study assessed that given the nature of works involved, there would be no involuntary land acquisition resulting in resettlement impacts or loss of livelihood. The poor and vulnerable households will especially benefit from improved services and reduced coping costs. However, the social risks and impacts could be of a temporary nature, including: i) possible encroachments in land required for building infrastructure such as storage tanks; ii) temporary restrictions to water supply when laying pipelines; iii) challenges in affordable and quality water supply to the customers, particularly the vulnerable households; iv) compliance to labor regulations by contractors engaged in laying of pipeline networks, including adherence to COVID-19-related protocols; v) effective communication and customer outreach so that customers are aware and benefit from the program, and vi) mechanisms for effective redressal of grievances.

70. *The borrower's regulatory systems were assessed for various departments such as Revenue Department, Labour Department, UDD, and it was found that their compliance procedures are streamlined.* SJPNL also has the capacity to address regulatory standards and procedures. Implementation of the pro-poor "Comprehensive Water Connections Policy", currently under preparation, will significantly benefit the vulnerable households including those residing in slums. SJPNL through its customer outreach mechanism is effectively reaching out to all customers including the poor and vulnerable households. Monitoring includes conducting of customer satisfaction surveys with a special focus on such vulnerable groups. Grievance redressal system is well managed by five executives within SJPNL and is integrated with the state's CM Helpline. However, special attention will be required for monitoring of labor engaged in construction works, construction related impacts to ensure restoration/repair of damages, as per provisions and adherence to COVID-19 protocols. Additional staff will be required to address the Program requirements. Gaps in ensuring bids/contractual provisions and risk mitigation measures will be addressed through the proposed capacity strengthening program (PAP, Annex 8). This will also include monitoring and progress reporting of social performance activities during civil works implementation.

71. The ESSA recommendations pertain to strengthening environmental and social capacity of SJPNL and its stakeholders through (i) hiring of dedicated social staff, (ii) developing documented systems and procedures, (ii) streamlining the bidding process and contract management to integrate EHS requirements and social aspects and



strengthening contractual provisions for risk mitigation measures, and (iv) building ESHS capacity in SJPNL, its contractors and consultants through capacity building activities. Related to implementation support, the Bank's supervision focus should be on building the environmental capacity.

72. Gender. Globally, women are under-represented in the water and wastewater sector²² and this is even more visible in South Asia²³. In India, female students constitute only 26% of enrolled students in engineering courses and their transition to technical roles and entrepreneurship opportunities in traditionally male-dominated sectors such as water and sanitation is low. There are also issues related to the retention of female staff in male-dominated fields.²⁴ To address this gender gap in employment in the WSS sector, the SJPNL will carry out a number of activities within the Program and outside, including, i) establishing a gender target to ensure that female staff in contractual positions, existing and new, are maintained at 30% throughout the Program period;²⁵ ii) revise SJPLN's HR policies to include required policies to promote gender equality in the workplace; iii) conduct a gender assessment of SJNPL to collect the most recent employment data and assess barriers to female and male employment. The findings of the gender assessment will inform SJPLN's business plan for the next five years and include specific measures to enhance gender equality in the workplace, particularly in technical and managerial positions; iv) provide opportunities for training, including mentoring for career guidance, aimed at career advancement and retention of existing women employees; v) establish an internship program to provide women with valuable skills for employment opportunities with SJPNL; and vi) develop a pipeline of female professionals for SJPNL and the WSS sector by facilitating career development talks at academic institutions (Annex 5).

V. RISK

73. The overall risk for the Program is rated as Substantial. The key areas of risks and measures to address the issues are given below.

(i) The Governance and Political Risk is rated as Substantial. The program supports the continuation of major institutional reforms in Shimla to further improve the performance of the newly established autonomous and accountable WSS Company. While critical reforms such as the separation of policy making, regulation and oversight, asset ownership and service delivery have been successfully implemented and accepted, the SJPNL remains a relatively new institution with limited precedent and is thus vulnerable to political change and governance risks. This is particularly the case in view of the ambitious nature of the overall GoHP WSS MTP which aims for the ultimate scale-up of the WSS institutional reforms and SJPNL service delivery to additional towns. This program strengthens SJPNL with the potential of expanding SJPNL's responsibilities in other areas and hence a threat to institutions currently providing services in other areas outside Shimla city. To mitigate this risk, the GoHP has begun a series of consultations and communication programs with concerned stakeholders in the other ULBs to emphasize the need for devolved responsibilities and corporate governance framework for improving services and reducing operational inefficiencies.

(ii) The Macroeconomic risk is rated as Substantial. The economic contraction brought about by the COVID-19 pandemic has significantly affected state finances through a combination of reduced revenues and heightened expenditure needs. However, the risk that the state's financial contribution to the program could fall short of needs

²² World Bank. 2019. *Women in Water Utilities: Breaking Barriers*. World Bank, Washington, DC.

²³ Data from Bangladesh and Pakistan shows that women comprise less than 6% of utility staff (World Bank. 2019. *Women in Water Utilities: Breaking Barriers*).

²⁴ A large share of women (20%) who enter the workforce in STEM-related fields in India quit within the first year (World Bank, 2019. *Women in Water Utilities: Breaking Barriers*).

²⁵ These positions are currently one of the few pathways to permanent positions in SJPLN. Furthermore, given that the pandemic has adversely affected women's work, maintaining women as 30% of employees in these positions will be a significant accomplishment given the challenging environment.



is substantially mitigated by the fact that (i) Himachal Pradesh is a Special Category State that depends relatively more on transfers from the Center and relatively less on own revenues (ii) the supported program is embedded in a long-standing engagement which is a high priority for the state's government, and (iii) the overall spending requirement (US\$ 250 million over 5 years) amounts to a small share of overall annual state expenditures.

(iii) The Institutional Capacity for Implementation and Sustainability Risk is rated as Substantial. The Program benefits from institutional capacity developed and progress achieved with support from the DPL-1. The SJPNL has implemented the WSS Utility reform program and has gradually built a name for itself by improving services in a challenging environment. The Program also benefits from the experience the state has in implementing comparable reforms in the electricity sector. Nevertheless, the continued implementation of reforms in the operationally complex and fiscally constrained environment resulting from the COVID-19 pandemic will demand high capacity to manage risks in relation to financial sustainability targets. To mitigate these risks, SJPNL will receive capacity building support from the Aguas de Portugal (AdP) WSS Utility, through the Utilities of the Future Program of the Bank's Water Global Solutions Group. The goal of the partnership is to support SJPNL in becoming a future-focused utility that provides efficient, resilient, accountable, and sustainable services.

(iv) The Fiduciary Risk is rated as Substantial. The SJPNL has adequate staff for procurement and financial management. A financial accounting system and framework are in place and able to provide information on the cost of bulk, distribution, and sewerage systems separately. Systems for budgeting, procurement, accounting, internal controls, and audit have been set up. Despite this progress, the remaining fiduciary risks are assessed as Substantial. This is due to the relative shortness of the time since the enactment of the reforms, the areas identified for strengthening, the relatively substantial size of planned investments under the PforR, and the possibility of a future expansion of SJPNL's service area under the MTP, which would constitute a substantial increase of the scope of work and fiduciary responsibility of SJPNL, and require sustained investment in manpower and systems. SJPNL is hiring a finance manager and improving financial management systems.

(v) The Stakeholders risk is rated as Substantial. While institutional reforms in Shimla are now well established and widely accepted, there are several stakeholders involved with the new WSS Company, including ULBs, the Jal Shakti Department, government employees, domestic and commercial customers, and political representatives. The risks due to expectations and apprehensions of these multiple stakeholders are substantial, especially given the complexities of scaling up 24x7 services citywide. SJPNL will implement a comprehensive communication strategy to address any possible stakeholder concerns regarding 24/7 supply. It will also hire an outreach agency to help conduct household-level interactions aimed at addressing potential questions and concerns from customers regarding issues such as metering, volumetric tariffs, etc. Key political players are currently aligned providing a stable enabling context, but the next state-level elections are due in 2022, and the evolving political economy context will need to be monitored for changes.

74. The operation has been screened for climate and disaster risks using the Bank's Climate and Disaster Risk Screening Tool. Based on the screening, the project area may be exposed to climate and disaster risks resulting in a "moderate" exposure rating. The operation aims to address the climate change-intensified risks of droughts, extreme heats, and floods which will be further reduced through the concurrent implementation of the National Action Plan on Climate Change, especially regarding the National Water Mission, whose objective is to increase water use efficiency by 20% through regulatory mechanisms. The Program activities are expected to make significant positive contributions to managing the impacts of climate change. More efficient operations and improved service levels will support mitigation, adaptation and improve resilience of the population in targeted urban areas in the face of expected climate change effects such as increased mean temperatures, droughts and changes in precipitation. Most directly, the proposed energy efficiency improvement program will contribute to both adaptation and mitigation. This will be achieved through renewable energy development for reduction of CO₂ /year by harnessing solar power



potential, but also the impact of operational efficiency reforms. More efficient operations will increase the available supply of water and thereby contribute to adaptation. Lowering energy consumption through increased energy efficiency will also lead to a reduction of GHG emissions under DLI#2. Climate change mitigation and adaptation will be supported not only through the energy efficiency policy, but also by the introduction of performance based contracts under DLI #1, performance incentives for SJPNL under DLI#6, tariff, subsidy, and cost recovery policies under DLI# 4 and # 5 and the program to reduce NRW under DLI #3.



Annex 1: Adjustments to the Country Program in Response to COVID-19

1. ***The COVID-19 pandemic affected economic activity significantly.*** In response to the pandemic, the Government of India (GoI) implemented a strict nationwide lockdown between April and June 2020 to prevent the spread of infections. As a result, supply chains and economic activity were disrupted. The lockdown was lifted gradually, from June 2020 onwards. This allowed economic activity to resume from the second quarter (July to September 2020) onwards.
2. ***Real GDP growth contracted by 7.3 percent in FY20/21—mainly due to restrictions on economic activity and mobility leading to large contractions in private consumption and investment***²⁶. Growth is expected to rebound in FY21/22 (within a range of 7.5-12.5 percent), but there is considerable uncertainty around the trajectory of future waves of COVID-19. The financing needs of the GoI are expected to rise significantly. The sharp economic slowdown has affected revenues disproportionately with general government revenues declining by over 10 percent in FY20/21. At the same time, expenditure needs have risen. The bulk of the required financing is expected to be sourced from domestic markets which have enough liquidity, with minor contribution from international borrowing.
3. ***The COVID-19 pandemic has exacerbated the vulnerabilities for traditionally excluded groups, such as youth and women.*** The lockdown, in the first quarter of FY20/21, appears to have had a major impact on household consumption. Mean per capita consumption is estimated to have dropped by 36 percent over April-July 2020 y-o-y. Available household survey data indicate that relative to the “traditional poor” the most affected population were relatively younger, more urban and educated. With the end of the lockdown, however, household consumption seems to have recovered to almost pre-pandemic levels. In addition, interstate migrants are at risk of increased poverty and destitution. Estimates from the Economic Survey highlight that the magnitude of inter-state labor migration in India was close to 9 million annually between 2011 and 2016 and migrant remittances in lower-income states like Bihar accounted for 35.6 percent of gross state domestic product (GSDP) in 2011–12. MSMEs that account for the largest non-farm employment (30 percent) with about 20 percent female participation are considered to have been impacted the most due to lockdown.
4. ***Fiscal and monetary policies aimed at managing the impact of the pandemic, together accounted for more than 10 percent of GDP in FY20/21:***
 - *Pradhan Mantri Garib Kalyan Yojana (PMGKY)* to protect the poor and vulnerable impacted by Coronavirus Containment Measures, expected to cost approximately US \$ 23 billion.
 - *MSME support* includes Emergency Credit Line Guarantee Scheme for INR 3 trillion²⁷, INR 200 billion subordinate debt for stressed MSMEs, INR 100 billion to provide equity funding for MSMEs with growth potential and change in the definition of MSMEs, by increasing investment limits and firm turnover, to help incentivize firms to grow.
 - *Agriculture infrastructure fund* proposed financing facility of INR 1 trillion (to be funded by NABARD) to promote post-harvest management infrastructure and *Micro-food enterprise* of INR 100 billion for technical upgrade and promotion of clusters of local products.
 - *Outlay of Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)*, a universal employment guarantee program, is increased by INR 400 billion.
 - *Increased state government borrowing limit*, from 3 percent to 5 percent of GSDP (additional INR 4.28 trillion).
 - *Long- Term Repo Operations (LTROs) and Special Liquidity window* to alleviate cash flow pressures. The Reserve Bank of India has conducted LTROs and Targeted LTROs for a total amount of INR 9.6 trillion (about 4.5 percent

²⁶ National Statistics Office, MOSPI.

²⁷ Details: <https://pib.gov.in/PressReleasePage.aspx?PRID=1625306>.



of GDP) since February 2020. Moreover, a Special Liquidity Facility for mutual funds of INR 500 billion was opened on April 27, 2020, to ease liquidity pressures on mutual funds.

WBG support for responding to the crisis

5. ***In alignment with its global response, the WBG has been closely supporting Gol's strategy, which consists of three phases.*** In the first phase, the Gol tackled the health aspects, and partnered with the Bank for a \$1 billion health project. In the second phase, Gol invested \$23 billion in social protection program to support the poor and vulnerable communities during the lockdown, and the Bank provided financing of \$1.15 billion. In the third phase, Gol focused on economic stabilization and reducing the costs of the lockdown. This includes support to MSMEs and their workers during lockdown by committing about 1.5 percent of GDP to MSME finance. The Bank financing of \$750 million is supporting this program to provide liquidity for their balance sheets, to mitigate against potential solvency problems and job losses, and to lay the foundations for a stronger MSME financing ecosystem in the recovery phase.

6. ***Additionally, the Bank activated the Contingent Emergency Response Component (CERC) in five projects to support the state governments' COVID-19 relief efforts.*** Moreover, many projects made special provisions for COVID-19 Assistance Packages within their project scope. Going forward, the Bank will be supporting the Gol as follows:

- ***Saving lives:*** Other than the ongoing health programs, the Bank is a potential partner with Gol on its flagship program of Atmanirbhar Swasth Bharat Yojna which aims at strengthening the health sector in the country by strengthening healthcare services, health emergency preparedness and response and strengthen core capacities as per the International Health Regulations. In addition, the Bank is exploring innovative ways of support to the state and central governments through upcoming operations in the education and health sector.
- ***Protecting poor and vulnerable people:*** The third phase of the Social Protection program is aimed at strengthening the capability of the state and national governments in India to respond to the needs of informal workers through a resilient and coordinated social protection system. Some upcoming projects have specific COVID-19 components supporting this pillar, e.g., Fisheries Sector COVID-19 Response and Recovery, and Resilient Kerala Program for Results.
- ***Sustainable growth and job creation:*** The Bank is preparing a project on raising and accelerating MSME productivity which will focus on strengthening institutions and markets. Job creation is a special focus under the infrastructure projects as well.
- ***Strengthening policies, institutions, and investments for rebuilding better:*** This is an all-encompassing theme under the India CPF and is integrated in most of the projects. The upcoming engagement with the National Disaster Management Agency on Seismic Risk Mitigation Project is one such example.

7. ***The IMF does not have an active lending program in India. However, it undertakes regular macroeconomic supervision and Article IV consultations twice yearly.*** The Bank and IMF teams regularly exchange views and information. The partnership with other donors was brought to fruition in both the Social Protection and MSME COVID-19 response DPLs. Within the Social Protection DPL, the Bank has worked in collaboration with the Asian Development Bank (ADB), Agence Française de Développement (AFD), and Kreditanstalt fuer Wiederaufbau (KfW). The Japanese International Cooperation Agency (JICA), Asian Infrastructure Investment Bank (AIIB), the New Development Bank (NDB) and International Fund for Agriculture (IFAD) are also exploring potential parallel financing in upcoming operations. Discussions are ongoing to expand the World Bank's TA through additional funds from the Bill and Melinda Gates Foundation (BMGF) and the United Kingdom's Foreign, Commonwealth and Development Office (FCDO).

ANNEX 2. RESULTS FRAMEWORK MATRIX

Results Framework

COUNTRY: India

Shimla-Himachal Pradesh Water Supply and Sewerage Services Improvement Program (PforR)

Program Development Objective(s)

The PDO is to strengthen the operational and financial performance of the SJPNL Utility and improve access to water supply and sewerage services in Shimla City.

Program Development Objective Indicators by Objectives/Outcomes

Indicator Name	DLI	Baseline	Intermediate Targets				End Target
			1	2	3	4	
Support the GoHP institutional program for improving WSS services that are efficient and accountable							
SJPNL strengthened as an autonomous WSS Company (Text)		WSS company established	All financial and managerial decisions taken by the BoD	All financial and managerial decisions taken by the BoD	All financial and managerial decisions taken by the BoD	All financial and managerial decisions taken by the BoD	All financial and managerial decisions taken by the BoD
SJPNL achieves operational efficiency and financial sustainability (Text)		see sub-indicators					see sub-indicators
SJPNL improves energy efficiency by 20% (Text)		Energy consumption per KL of water is 13 KWH.	Reduces to 12.5 KWH	Reduces to 12.0 KWH	Reduces to 11.5 KWH	Reduces to 11.0 KWH	Reduces to 10.4 KWH
SJPNL reduces Non-Revenue-Water by 15%		To be determined in first year	Baseline determined	NRW is 3.75% less than baseline	NRW is 7.5% less than baseline	NRW is 11.25% less than baseline	NRW is 15% less than baseline



Indicator Name	DLI	Baseline	Intermediate Targets				End Target
			1	2	3	4	
(Text)							
O&M Cost Recovery in water distribution (Text)		120%	131%	142%	153%	164%	175%
Number of people benefitting from improved WSS services (Text)	DLI 7	see sub indicators					see sub indicators
(i) Number of people having access to continuous water supply (Number)		0.00	0.00	850,000.00	1,700,000.00	2,550,000.00	3,400,000.00
(ii) Number of additional people provided with sewerage services. (Number)		0.00	272,000.00	544,000.00	816,000.00	1,088,000.00	1,360,000.00

Intermediate Results Indicator by Results Areas

Indicator Name	DLI	Baseline	Intermediate Targets				End Target
			1	2	3	4	
Improved governance, managerial and financial autonomy of SJPNL							
At least 80% of SJPNL employees receive incentives as per the performance incentive policy. (Text)		No incentive policy for SJPNL employees	SJPNL prepares and adopts performance incentive policy.	20% of SJPNL employees receive incentives as per the performance incentive policy.	40% of SJPNL employees receive incentives as per the performance incentive policy.	60% of SJPNL employees receive incentives as per the performance incentive policy	80% of SJPNL employees receive incentives as per the performance incentive policy.
At least 30% women employed as contractual staff in SJPNL. (Text)		20%	At least 25%	At least 30%	At least 30%	At least 30%	At least 30%
SJPNL implements performance-based payments to the private water supply operator (Text)		Performance based contract for intra city water distribution under preparation	SJPNL awards performance-based contract for intra city water distribution	Completion of performance audit of the Operator through an independent agency	Completion of performance audit of the Operator through an independent agency	Completion of performance audit of the Operator through an independent agency	Completion of performance audit of the Operator through an independent agency
Five-year business plan approved and adopted (Text)		No Strategic Business Plan	SJPNL Business Plan Adopted	SJPNL Business Plan Adopted	SJPNL Business Plan Adopted	SJPNL Business Plan Adopted	SJPNL Business Plan Adopted
HR policies reviewed and revised to promote gender equality in the workplace (Text)		No HR Gender policy	No HR Gender policy	HR Gender Policy in place	HR Gender Policy in place	HR Gender Policy in place	HR Gender Policy in place
Improved efficiency, financial sustainability and customer accountability							
SJPNL redresses at least 90% WSS grievances within the specified period (Text)		Grievance redressal system exists	SJPNL redresses at least 90% WSS grievances within the specified period	SJPNL redresses at least 90% WSS grievances within the specified period	SJPNL redresses at least 90% WSS grievances within the specified period	SJPNL redresses at least 90% WSS grievances within the specified period	SJPNL redresses at least 90% WSS grievances within the specified period
Percentage of 24 / 7 customers billed on volumetric basis		0%	10%	30%	40%	80%	At least 90%



Indicator Name	DLI	Baseline	Intermediate Targets				End Target
			1	2	3	4	
(Text)							
SJPNL scores at least 70% in customer satisfaction survey (Text)		Pilot citizen satisfaction survey completed in 2019-20.	SJPNL achieving at least 70% satisfaction score in citizen feedback survey	SJPNL achieving at least 70% satisfaction score in citizen feedback survey	SJPNL achieving at least 70% satisfaction score in citizen feedback survey	SJPNL achieving at least 70% satisfaction score in citizen feedback survey	SJPNL achieving at least 70% satisfaction score in citizen feedback survey
Improved water supply and sewerage services							
Percentage of water quality samples meeting standards (Percentage) (Percentage)		98.00	98.00	98.00	98.00	98.00	98.00
Percentage of STP effluent samples meeting standards (Percentage) (Percentage)		98.00	98.00	98.00	98.00	98.00	98.00



Monitoring & Evaluation Plan: PDO Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
SJPNL strengthened as an autonomous WSS Company	<p>A. SJPNL Board of Directors or the MD cum CEO takes all managerial and financial decisions.</p> <p>(a) Managerial decisions pertain to all project management decisions, operational decisions, procurement decisions and HR policy decisions.</p> <p>(b) Financial decisions pertain to all financial management decisions and commercial decisions related to billing and collection, apart from tariff.</p>	Annual	SJPNL M&E System.	SJPNL will maintain a record of all the matters which are referred to the GoHP for decisions.	SJPNL.
SJPNL achieves operational efficiency and financial sustainability	The operational efficiency refers to energy efficiency improvement, NRW reduction and improvement in O&M cost recovery (see sub-indicators).	Annual	SJPNL	SJPNL achieves operational efficiency and financial sustainability	SJPNL to maintain records and IVA to verify.



SJPNL improves energy efficiency by 20%	Energy efficiency improvement for water supply system refers to reduction in per unit energy consumption for water delivered at the balancing reservoir	Annual	SJPNL	<p>Energy efficiency (KWH /KL) in water supply is the ratio of the energy consumed (KWH) for water production and distribution to the volume of water delivered (KL) to the main balancing reservoir.</p> <p>The information on energy consumption will be based on electricity bills for water production and distribution systems. The information on volume of water delivered for distribution (KL) at the main balancing reservoir will be based on measurement at the outlet of main balancing reservoir for the same period. SJPNL will update the data in the M&E system, based on which Energy Efficiency will be calculated.</p> <p>The total electricity bill (in Rs) will be calculated taking into consideration</p>	SJPNL to maintain records and IVA to verify as this indicator is also a DLI.
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				the power costs, the energy charges such as demand charges, peak hour charges and the power factor. The total electricity bill will be divided by the unit rate per KWH of energy for normal hours as per tariff order of Himachal Pradesh Electricity Regulatory Commission, to get the equivalent KWH for calculating energy efficiency	
SJPNL reduces Non-Revenue-Water by 15%	NRW will be calculated as the ratio of volume of water delivered at the main balancing reservoir less volume of water billed to the consumers for the same period to the volume of water delivered at the main balancing reservoir in the same period. NRW reduction includes reduction in (a) physical (or real) losses, (b) commercial (or apparent) losses, and (c) unbilled authorized consumption in water supply.	Annual	SJPNL	<p>The volume of water delivered at the main balancing reservoir will be measured at the inlet of the main balancing reservoir on daily basis. The volume of water billed to the consumers will be measured by SJPNL on monthly basis through consumption meters. Where consumption is not metered, SJPNL will estimate consumption on sample basis (thrice) every year.</p>	SJPNL to maintain records and IVA to verify as this indicator is also a DLI.

				<p>SJPNL will establish the baseline for NRW in the first year of the Program.</p> <p>SJPNL will update the data in the M&E system, based on which NRW will be calculated. IVA will verify the NRW data recorded in the M&E system on annual basis. IVA will verify the NRW data submitted by the private operator to SJPNL. In addition IVA will verify on sample basis bulk water metering and consumer metering data available on the M & E system.</p>	
O&M Cost Recovery in water distribution	<p>O&M Cost Recovery for water distribution is expressed as percentage of revenue from water supply to the cost of operating and maintaining water distribution services. SJPNL's revenue from water supply include revenue from water supply in SMC area and revenue from supply of bulk water</p>	Annual	SJPNL	<p>SJPNL will update both cost and revenue data in the M&E system, based on which O & M cost recovery will be calculated. SJPNL will segregate shared costs between bulk water supply, water distribution and sewage services, in order to arrive at the cost of</p>	<p>SJPNL to maintain records and IVA to verify as this indicator is also a DLI.</p>

	<p>to Jal Shakti Vibhag, commercial institutions and other housing societies in peri urban areas of Shimla. SJPNL's cost of operating and maintaining water distribution system include operator payments (staff costs, salaries, overheads etc.), electricity costs, chemicals and consumables, repair and maintenance, administrative expenses etc. Cost of sewage services and treated bulk water supply to Shimla (till the balancing reservoir) are excluded. Revenue from sewage services is excluded</p>			<p>water distribution Revenue for water supply will be obtained from M & E system and will exclude any revenue for sewage services. IVA will verify the O&M cost recovery data recorded in the M&E system on annual basis.</p>	
<p>Number of people benefitting from improved WSS services</p>	<p>This refers to the number of people benefiting from improved WSS services. This comprises of the following categories – (a) Residential population, and (b) Tourist population.</p> <p>Improved WSS service refers to (a) Provision of continuous water supply, and (b) Provision of</p>	<p>Annual</p>	<p>SJPNL</p>	<p>SJPNL will maintain the following records as a part of its M&E system:</p> <ol style="list-style-type: none"> 1. List of water supply connections including any new connections and discontinued connections on a monthly basis. 2. Data on hours of water supplied at pre- 	<p>SJPNL to maintain records and IVA to verify.</p>

	<p>functional sewerage connections.</p> <p>(a) Provision of continuous water supply refers to a water supply connection providing water supply for at least 20 hours a day, for a minimum of 330 days in the year. This would also apply to new connections providing at least 30 days of continuous water supply.</p> <p>(b) Provision of a functional sewerage connections refers to a sewerage connection which is connected to a sewerage network</p>			<p>determined measurement points in the network.</p> <p>3. Number of tourists from the Department of Tourism, GoHP (on an annual basis)</p> <p>4. List of sewerage connections including any new connections on a monthly basis. IVA will verify the data recorded in the M&E system on annual basis. In addition, IVA will verify the data on water supply and sewerage connections from the billing and collection software, data on hours of water supply from the DMA operator/ SJPNL manager and data on tourists from information published by Department of Tourism.</p>	
(i) Number of people having access to continuous water supply	Continuous water supply refers to water supplied for at least 20 hours a day, for a minimum of 330 days in	Annual	SJPNL	<p>a. Data on pressure and hours of water supply at pre-</p>	SJPNL to maintain records and IVA to verify as this indicator is also a DLI.

	the year. This would also apply to new connections providing at least 30 days of continuous water supply. Number of people benefitting will include both resident and tourist population.			<p>determined measurement points in the distribution network.</p> <p>b. Number of connections serving resident and tourist population.</p> <p>c. Number of people benefitting from continuous water supply including residents and tourists.</p> <p>Each water connection is assumed to benefit 98 residents and tourists IVA will review data from the M&E system, billing and collection system and independent audit reports of Operator performance.</p>	
(ii) Number of additional people provided with sewerage services.	Access to sewerage services refers to a sewerage connection which is connected to the	Annual	SJPNL	<p>SJPNL will maintain the following records as a part of its M&E system:</p> <p>a. Number of</p>	SJPNL to maintain records and IVA to verify as this indicator is also a DLI.

	<p>sewerage network. A new connection would count towards achievement if it has been provided with sewerage services for at least 30 days in the year. Number of people benefitting from sewerage services will include both resident and tourist population.</p> <p>While there are 2.04 million people benefitting from existing sewerage services at present, the baseline and annual targets refer to the cumulative number of additional people provided with sewerage services (i.e. 0 additional people at baseline rising up to a total cumulative target of 1,360,000 additional persons benefitting from sewerage services under the project). Under these targets, each year 272,000 new people would gain access to sewerage services.</p>			<p>sewerage connections including any new connections on a monthly basis serving both resident and tourist population.</p> <p>b. Number of people having access to sewerage services.</p> <p>c. Day-wise record of sewage volumes received at STPs.</p> <p>Each sewerage connection is assumed to benefit 98 residents and tourists IVA will verify the records on the number of people benefitting from sewerage services as per the M&E system. IVA will verify the records from the billing and collection software. IVA will verify the records of the</p>	
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				volume of sewage received at STP through the M & E system to confirm the additional flow of sewage into STPs.	
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Monitoring & Evaluation Plan: Intermediate Results Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
At least 80% of SJPNL employees receive incentives as per the performance incentive policy.	1. SJPNL will obtain approval from BoD and implement a policy for performance linked incentive for managers, engineers, and executives. The policy will include: (a) Corpus of funds available to SJPNL for distribution as performance linked Incentive, and methodology for calculating this corpus; (b) Eligibility and normative allocation of the corpus towards individual employees including on-roll and contractual employees; (c) Performance targets to be met by each employee; (d) Methodology, including individual performance, unit performance, and SJPNL performance; (e) Linkage between performance evaluation and the incentive payable	Annual	SJPNL	SJPNL will use the performance incentive policy for staff approved by the BoD. SJPNL will maintain the records of the meeting of the Board in form of minutes of the meeting. The HR Department of SJPNL will maintain the records on implementation of policy. The HR Department of SJPNL will prepare annual report on performance evaluation of employees. HR Department of SJPNL will verify the total number of employees to whom the performance incentive policy is applicable and verify the number of employees who have received the performance incentive. Repeat instances of an employee receiving	SJPNL to maintain records

	<p>to the employee; (f) Procedure for grievance redressal related to performance incentive.</p> <p>2. SJPNL will prepare annual report on performance evaluation of employees providing details of (a) corpus available for distribution, (b) normative allocation of corpus to each employee, (c) performance score of each employee, and (d) incentive distributed to the employee based on performance score.</p> <p>During the Program period, at least 80% of the number of employees to whom the performance incentive policy is applicable should have received performance incentive as per the performance incentive policy and evaluation.</p>			performance incentive is eligible to be counted separately towards achievement.	
At least 30% women employed as contractual staff in SJPNL.	<p>This indicator refers to the percentage share of women employees to the total contractual employees in SJPNL.</p>	Annual	SJPNL	<p>SJPNL will increase the share of contractual women employees working in SJPNL. SJPNL will report using the data provided by the HR</p>	<p>SJPNL to maintain records.</p>

				Department of SJPNL across all functions of SJPNL	
SJPNL implements performance-based payments to the private water supply operator	<p>Performance based contract is an agreement or contract signed between SJPNL and a private operator for achieving a specified level of performance which will include service delivery standards for (a) continuity of water supply, (b) NRW, (c) metering and billing, and (d) grievance redressal.</p> <p>The operator's remuneration will be linked to performance in the above mentioned areas and the performance of the operator will be audited through an independent agency as per the contract.</p>	Annual	SJPNL	<p>SJPNL will enter into a performance-based contract for water supply distribution with a private operator. Contract to include service delivery standards listed above . SJPNL will carry out an annual performance audit of the operator through an independent agency. The scope of the audit will be as per the terms of the contract and will include verification of annual performance targets of the Operator. SJPNL is expected to complete at least three annual performance audits during the Program period.</p>	As this is also a DLI, IVA will verify the agreement signed with the private operators and confirm that service delivery standards listed above are included in the contract.
Five-year business plan approved and adopted	<p>The 5-year business plan comprises of the following:</p> <ul style="list-style-type: none"> (a) Service Delivery Improvement targets (b) Operational 	Annual	SJPNL	<p>SJPNL will prepare a five - year Business plan which will be approved and adopted by the BoD SJPNL will maintain the</p>	SJPNL

	Efficiency (Energy Efficiency & NRW control) targets (c) Capital Investment Plan (d) Organizational Structure and Annual Staff Plan (e) Revenue projections including year wise projected tariff and demand (f) Cash flow projections with cost Recovery & subsidy requirements (g) Systems for financial Management, Customer Grievance Redressal and M&E. (h) Capacity building plan (i) Commitments from stakeholders for financial support			records of the meeting of the Board on the business plan in form of minutes of the meeting.	
HR policies reviewed and revised to promote gender equality in the workplace	SJPNL will develop a HR gender policy to promote gender equality in the workplace.	Annual	Approved SJPNL HR Policy	Review of Approved SJPNL HR Policy	SJPNL
SJPNL redresses at least 90% WSS grievances within the specified period	The grievance redressal mechanism will be part of	Annual	SJPNL to maintain	SJPNL will maintain records of grievance	SJPNL to maintain records in M&E System.

	<p>the M&E system of SJPNL. It will include the time limit for redressal for various categories of grievances as per the citizen's charter for SJPNL.</p>		<p>records of grievance redressal in M&E system.</p>	<p>redressal in its M&E system, including (a) time of grievance, (b) category of grievance, (c) time taken for redressal as per SJPNL records, (d) time of confirmation of redressal by cross verification with a sample of customers, and (e) status of grievances outstanding or closed without redressal. The annual report of SJPNL will contain a grievance redressal report disclosing the percentage of grievances redressed within 24 hours as per stipulated time period.</p>	
<p>Percentage of 24 / 7 customers billed on volumetric basis</p>	<p>24 / 7 customers defined as customers having access to continuous water supply.</p> <p>Provision of continuous water supply refers to a water supply connection providing water supply for</p>	<p>Annual</p>	<p>SJPNL</p>	<p>SJPNL will maintain the following records as a part of its M&E system:</p> <ul style="list-style-type: none"> a. List of water supply connections including any new connections 	<p>SJPNL to maintain records in M&E system on percentage of 24 / 7 customers billed on volumetric basis.</p>

	<p>at least 20 hours a day, for a minimum of 330 days in the year. This would also apply to new connections providing at least 30 days of continuous water supply.</p> <p>The percentage of connections billed on volumetric basis will be considered for measuring this indicator</p>			<p>and discontinued connections, on a monthly basis.</p> <p>b. Data on hours of water supplied at pre-determined measurement points in the network.</p> <p>c. Number of connections billed on volumetric basis.</p> <p>SJPNL will maintain the data on billing and collection from water supply connections in the billing and collection software and M&E system.</p> <p>IVA will verify the percentage of customers billed on volumetric basis through the billing & collection software and the M & E system</p>	
SJPNL scores at least 70% in customer satisfaction survey	Satisfaction score is measured through citizen feedback survey conducted by SJPNL annually to	Annual	Satisfaction Survey implemented by SJPNL	SJPNL will publish the methodology for citizen satisfaction survey and disclose the results	SJPNL

	determine the current levels of WSS service quality and citizen satisfaction. The survey would focus on (a) access to water supply and sewerage services, (b) water quality and quantity, (c) reliability and affordability, (d) customer service related to WSS services, and (e) willingness to use e-services. Citizen satisfaction would be measured based on a scale of 1-10, with 1 indicating lowest satisfaction and 10 indicating full satisfaction.			publicly.	
Percentage of water quality samples meeting standards (Percentage)	Water quality samples meeting standards refer to the number of water quality samples meeting the drinking water quality standards specified in CPHEEO Guidelines and IS: 10500.	Annual	SJPNL	The water distribution operator appointed by SJPNL under the performance based contract will maintain the day-wise record of the quality of water supplied at various locations of the water supply network and the same will be recorded in the M&E system. SJPNL will verify the quality of water supplied	SJPNL to maintain records in M&E system.



				based on the reports submitted by the operator for the performance standard compliance and independent tests carried out by SJPNL.	
Percentage of STP effluent samples meeting standards (Percentage)	STP effluent samples meeting standards refer to the number of STP effluent quality samples meeting the effluent quality standards specified in CPHEEO Guidelines.	Annual	SJPNL	The operator of the STP will maintain day-wise record of the treated effluent quality standards and the same will be recorded in the M&E system. SJPNL will verify the quality of treated effluent based on the reports submitted by the operator and independent tests carried out by SJPNL.	SJPNL to maintain records in M&E system.

ANNEX 3. DISBURSEMENT LINKED INDICATORS, DISBURSEMENT ARRANGEMENTS AND VERIFICATION PROTOCOLS

Disbursement Linked Indicators Matrix				
DLI 1	SJPNL implements performance-based payments to the private water supply operator			
Type of DLI	Scalability	Unit of Measure	Total Allocated Amount (USD)	As % of Total Financing Amount
Output	No	Text	18.80	12.00
Period	Value		Allocated Amount (USD)	Formula
Baseline	Performance based contract for intra city water distribution under preparation			
Year 1	Yes		10.60	10.6 Mn USD on signing of the performance based contract
Year 2	Yes		4.10	4.1 Mn USD on completion of performance audit of the Operator through an independent agency
Year 3	Yes		4.10	4.1 Mn USD on completion of performance audit of the Operator through an independent agency
Year 4	No		0.00	0.00
Year 5	No		0.00	0.00

DLI 2	SJPNL improves energy efficiency in water supply by 20%			
Type of DLI	Scalability	Unit of Measure	Total Allocated Amount (USD)	As % of Total Financing Amount
Outcome	Yes	Text	19.20	12.00
Period	Value		Allocated Amount (USD)	Formula
Baseline	Energy consumption is 13 KWH per KL of water delivered at the balancing reservoir.			
Year 1	12.5 KWH per KL		3.70	7.4 mn USD for every unit reduction in KWH per KL of water delivered at the balancing reservoir relative to the preceding year
Year 2	12.0 KWH per KL		3.70	7.4 mn USD for every unit reduction in KWH per KL of water delivered at the balancing reservoir relative to the preceding year
Year 3	11.5 KWH per KL		3.70	7.4 mn USD for every unit reduction in KWH per KL of water delivered at the balancing reservoir relative to the preceding year
Year 4	11.0 KWH per KL		3.70	7.4 mn USD for every unit reduction in KWH per KL of water delivered at the balancing reservoir relative to the preceding year
Year 5	10.4 KWH per KL		4.40	7.4 mn USD for every unit reduction in KWH per KL of water delivered at

			the balancing reservoir relative to the preceding year	
DLI 3	SJPNL reduces Non-Revenue-Water by 15%			
Type of DLI	Scalability	Unit of Measure	Total Allocated Amount (USD)	As % of Total Financing Amount
Outcome	Yes	Text	19.20	12.00
Period	Value		Allocated Amount (USD)	Formula
Baseline	To be determined in the first year			
Year 1	Baseline determined		0.00	0.00
Year 2	3.75% below baseline		4.80	US\$ 1.28 mn for each additional 1% reduction in NRW
Year 3	7.5% below baseline		4.80	US\$ 1.28 mn for each additional 1% reduction in NRW
Year 4	11.25% below baseline		4.80	US\$ 1.28 mn for each additional 1% reduction in NRW
Year 5	15% below baseline		4.80	US\$ 1.28 mn for each additional 1% reduction in NRW
DLI 4	SJPNL indexes tariff annually as per tariff policy			
Type of DLI	Scalability	Unit of Measure	Total Allocated Amount (USD)	As % of Total Financing Amount
Process	No	Text	19.20	12.00
Period	Value		Allocated Amount (USD)	Formula

Baseline	Tariff indexed on April 1, 2019			
Year 1	Yes		3.84	3.84 mn USD if SJPNL indexes tariff annually as per tariff policy
Year 2	Yes		3.84	3.84 mn USD if SJPNL indexes tariff annually as per tariff policy
Year 3	Yes		3.84	3.84 mn USD if SJPNL indexes tariff annually as per tariff policy
Year 4	Yes		3.84	3.84 mn USD if SJPNL indexes tariff annually as per tariff policy
Year 5	Yes		3.84	3.84 mn USD if SJPNL indexes tariff annually as per tariff policy
DLI 5	SJPNL achieves at least 175% O&M Cost Recovery in water distribution.			
Type of DLI	Scalability	Unit of Measure	Total Allocated Amount (USD)	As % of Total Financing Amount
Outcome	Yes	Text	19.20	12.00
Period	Value		Allocated Amount (USD)	Formula
Baseline	O&M Cost Recovery for water distribution is 120%			
Year 1	131%		3.84	US\$ 349,091 for each percentage improvement in O & M cost recovery in water distribution
Year 2	142%		3.84	US\$ 349,091 for each percentage improvement in O & M cost

			recovery in water distribution	
Year 3	153%	3.84	US\$ 349,091 for each percentage improvement in O & M cost recovery in water distribution	
Year 4	164%	3.84	US\$ 349,091 for each percentage improvement in O & M cost recovery in water distribution	
Year 5	175%	3.84	US\$ 349,091 for each percentage improvement in O & M cost recovery in water distribution	
DLI 6	SJPNL receives an annual performance score of at least 3 out of 5			
Type of DLI	Scalability	Unit of Measure	Total Allocated Amount (USD)	As % of Total Financing Amount
Output	No	Text	16.00	10.00
Period	Value		Allocated Amount (USD)	Formula
Baseline	Annual Performance Score of 3 out of 5			
Year 1	SJPNL receives an annual performance score of at least 3 out of 5		3.20	US\$ 3.2 mn if SJPNL receives an annual performance score of at least 3 out of 5
Year 2	SJPNL receives an annual performance score of at least 3 out of 5		3.20	US\$ 3.2 mn if SJPNL receives an annual performance score of at least 3 out of 5
Year 3	SJPNL receives an annual performance score of at least 3 out of 5		3.20	US\$ 3.2 mn if SJPNL receives an annual performance score of at

			least 3 out of 5	
Year 4	SJPNL receives an annual performance score of at least 3 out of 5	3.20	US\$ 3.2 mn if SJPNL receives an annual performance score of at least 3 out of 5	
Year 5	SJPNL receives an annual performance score of at least 3 out of 5	3.20	US\$ 3.2 mn if SJPNL receives an annual performance score of at least 3 out of 5	
DLI 7	Number of people benefitting from improved WSS services			
Type of DLI	Scalability	Unit of Measure	Total Allocated Amount (USD)	As % of Total Financing Amount
Outcome	Yes	Text	48.00	30.00
Period	Value		Allocated Amount (USD)	Formula
Baseline	see sub indicators			
Year 1	see sub indicators		3.20	see sub indicators
Year 2	see sub indicators		8.65	see sub indicators
Year 3	see sub indicators		10.35	see sub indicators
Year 4	see sub indicators		12.05	see sub indicators
Year 5	see sub indicators		13.75	see sub indicators

DLI 7.1	Number of people having access to continuous water supply			
Type of DLI	Scalability	Unit of Measure	Total Allocated Amount (USD)	As % of Total Financing Amount
Outcome	Yes	Number	32.00	20.00
Period	Value		Allocated Amount (USD)	Formula
Baseline	0.00			
Year 1	0.00		0.00	-
Year 2	850,000.00		5.45	US\$6.4118 per person with new access to continuous water supply + US\$2 per person with maintained access from previous year(s)
Year 3	1,700,000.00		7.15	US\$6.4118 per person with new access to continuous water supply + US\$2 per person with maintained access from previous year(s)
Year 4	2,550,000.00		8.85	US\$6.4118 per person with new access to continuous water supply + US\$2 per person with maintained access from previous year(s)
Year 5	3,400,000.00		10.55	US\$6.4118 per person with new access to continuous water supply + US\$2 per person with maintained access from previous year(s)



DLI 7.2	Number of additional people provided with sewerage services			
Type of DLI	Scalability	Unit of Measure	Total Allocated Amount (USD)	As % of Total Financing Amount
Outcome	Yes	Number	16.00	10.00
Period	Value		Allocated Amount (USD)	Formula
Baseline	0.00			
Year 1	272,000.00		3.20	11.764 US\$ per additional person provided with sewage services compared to prior project year
Year 2	544,000.00		3.20	11.764 US\$ per additional person provided with sewage services compared to prior project year
Year 3	816,000.00		3.20	11.764 US\$ per additional person provided with sewage services compared to prior project year
Year 4	1,088,000.00		3.20	11.764 US\$ per additional person provided with sewage services compared to prior project year
Year 5	1,360,000.00		3.20	11.764 US\$ per additional person provided with sewage services compared to prior project year

Verification Protocol Table: Disbursement Linked Indicators

DLI 1	SJPNL implements performance-based payments to the private water supply operator
Description	Performance based contract is an agreement or contract signed between SJPNL and a private operator for achieving a specified level of performance which will include service delivery standards for (a) continuity of water supply, (b) NRW, (c) metering and billing, and (d) grievance redressal. The operator's remuneration will be linked to performance in the above mentioned areas and the performance of the operator will be audited through an independent agency as per the contract.
Data source/ Agency	SJPNL
Verification Entity	IVA
Procedure	SJPNL will enter into a performance-based contract for water supply distribution with a private operator. IVA will verify the agreement signed with the private operators and confirm that service delivery standards listed above are included in the contract.
DLI 2	SJPNL improves energy efficiency in water supply by 20%
Description	Energy efficiency improvement for water supply system refers to reduction in per unit energy consumption per KL of water delivered at the balancing reservoir.
Data source/ Agency	SJPNL
Verification Entity	IVA
Procedure	<p>Energy efficiency (KWH /KL) in water supply is the ratio of the energy consumed (KWH) for water production and distribution to the volume of water delivered (KL) to the main balancing reservoir.</p> <p>The information on energy consumption will be based on electricity bills for water production and distribution systems. The information on volume of water delivered for distribution (KL) at the main balancing reservoir will be based on measurement at the outlet of main balancing reservoir for the same period. SJPNL will update the data in the M&E system, based on which Energy Efficiency will be calculated.</p> <p>The total electricity bill (in Rs) will be calculated taking into consideration the power costs, the energy charges such as demand charges, peak hour charges and the power factor. The total electricity bill will be divided by the unit rate per KWH of energy for normal hours as per tariff order of Himachal Pradesh Electricity Regulatory Commission, to get the equivalent KWH for calculating energy efficiency.</p>

	<p>SJPNL will update the data in the M&E system, based on which Energy Efficiency will be calculated.</p> <p>IVA will verify the data recorded in the M&E system on annual basis. In addition, IVA will verify the Energy Efficiency data submitted by the private operator to SJPNL.</p> <p>In any year, the reduction achieved will be calculated taking the lowest of the annual average energy consumption achieved in any of the earlier years as the reference point. Evaluation will be done once in a year.</p> <p>Any shortfall or excess achievement can be adjusted in subsequent years subject to the overall cap for the DLI.</p> <p>The cumulative disbursement in all years will not exceed the total disbursement allocated for the DLI.</p>
DLI 3	SJPNL reduces Non-Revenue-Water by 15%
Description	<p>NRW will be calculated as the ratio of volume of water delivered at the main balancing reservoir less volume of water billed to the consumers for the same period to the volume of water delivered at the main balancing reservoir in the same period.</p> <p>NRW reduction includes reduction in (a) physical (or real) losses, (b) commercial (or apparent) losses, and (c) unbilled authorized consumption in water supply. Billed authorised consumption will include billed water supply to the SMC area and billed bulk water supplied to Jal Sahkti Vibhag, commercial institutions and other housing societies in peri urban areas of Shimla.</p>
Data source/ Agency	SJPNL
Verification Entity	IVA
Procedure	<p>The volume of water delivered at the main balancing reservoir will be measured at the inlet of the main balancing reservoir on daily basis. The volume of water billed to the consumers will be measured by SJPNL on monthly basis through consumption meters. Where consumption is not metered, SJPNL will estimate consumption on sample basis (thrice) every year.</p> <p>SJPNL will establish the baseline for NRW in the first year of the Program.</p> <p>SJPNL will update the data in the M&E system, based on which NRW will be calculated.</p> <p>IVA will verify the NRW data recorded in the M&E system on annual basis. IVA will verify the NRW data submitted by the private operator to SJPNL. In addition IVA will verify on sample basis bulk water metering and consumer metering data available on the M & E system.</p>

	<p>In any year, the reduction achieved will be calculated taking the lowest of the annual average NRW achieved in any of the earlier years as the reference point. Evaluation will be done once in a year.</p> <p>Any shortfall or excess achievement can be adjusted in subsequent years subject to the overall cap for the DLI.</p> <p>The cumulative disbursement in all years will not exceed the total disbursement allocated for the DLI.</p>
DLI 4	SJPNL indexes tariff annually as per tariff policy
Description	Tariff will be indexed annually based on SJPNL's tariff indexation policy.
Data source/ Agency	SJPNL
Verification Entity	IVA
Procedure	<p>SJPNL will implement the policy for annual tariff indexation as per the approved Cost Recovery, Tariff and Subsidy Policy. SJPNL will maintain the record of government notification on tariff indexation.</p> <p>IVA will verify that the tariff has been indexed as per the approved Cost Recovery, Tariff and Subsidy Policy annually and also verify SJPNL's notification on effective tariff rates. IVA will verify from the M & E system and billing and collection software that the indexed tariff has been applied in the water bills.</p>
DLI 5	SJPNL achieves at least 175% O&M Cost Recovery in water distribution.
Description	<p>O&M Cost Recovery for water distribution is expressed as percentage of revenue from water supply to the cost of operating and maintaining water distribution services. SJPNL's revenue from water supply include revenue from water supply in SMC area and revenue from supply of bulk water to Jal Shakti Vibhag, commercial institutions and other housing societies in peri urban areas of Shimla. SJPNL's cost of operating and maintaining water distribution system include operator payments (staff costs, salaries, overheads etc), electricity costs, chemicals and consumables, repair and maintenance, administrative expenses etc. Cost of sewage services and treated bulk water supply to Shimla (till the balancing reservoir) are excluded. Revenue from sewage services is excluded.</p>
Data source/ Agency	SJPNL
Verification Entity	IVA
Procedure	<p>SJPNL will update both cost and revenue data in the M&E system, based on which O & M cost recovery will be calculated. SJPNL will segregate shared costs between bulk water supply, water distribution and sewage services, in order to arrive at</p>

	<p>the cost of water distribution.</p> <p>Revenue for water supply will be obtained from M & E system and will exclude any revenue for sewage services.</p> <p>IVA will verify the O&M cost recovery data recorded in the M&E system on annual basis</p>
DLI 6	SJPNL receives an annual performance score of at least 3 out of 5
Description	<p>The performance score is evaluated based on a methodology that covers the following key aspects of utility performance: (a) Customer Service (30%); (b) Efficiency (20%); (c) Organizational Systems (20%); (d) Completion of Capital Investment Plan (30%). SJPNL will receive an annual performance score between 1 and 5 based on these criteria .</p>
Data source/ Agency	The Independent Directors on the Board of SJPNL will lead the evaluation process with subsequent verification by the IVA.
Verification Entity	The IVA will verify the score and its justification.
Procedure	<p>Annual evaluation of SJPNL's performance based on set criteria resulting in a score between 1 (lowest) to 5 (highest). Methodology components (Customer Service, Efficiency, Organizational Systems, Completion of Capital Investment Plan) will be informed by the SJPNL M&E system as well as key associated documents SJPNL will publish and disclose, including audited financial statements, corporate governance compliance report, citizen report card and overall Annual Report.</p>
DLI 7	Number of people benefitting from improved WSS services
Description	<p>This refers to the number of people benefitting from improved WSS services. This comprises of the following categories – (a) Residential population, and (b) Tourist population. Improved WSS service refers to (a) Provision of continuous water supply, and (b) Provision of functional sewerage connections. (a) Provision of continuous water supply refers to a water supply connection providing water supply for at least 20 hours a day, for a minimum of 330 days in the year. This would also apply to new connections providing at least 30 days of continuous water supply. (b) Provision of a functional sewerage connections refers to a sewerage connection which is connected to a sewerage network</p>
Data source/ Agency	see sub indicators
Verification Entity	see sub indicators
Procedure	see sub indicators

DLI 7.1	Number of people having access to continuous water supply
Description	Continuous water supply refers to water supplied for at least 20 hours a day, for a minimum of 330 days in the year. This would also apply to new connections providing at least 30 days of continuous water supply. Number of people benefitting will include both resident and tourist population. In the formula, "New Access" refers to persons newly provided with access to continuous water supply in the respective year while "maintained access from previous year(s)" refers to persons still benefitting from functional access to continued water supply from connections established under the project in prior years
Data source/ Agency	SJPNL
Verification Entity	IVA
Procedure	<p>SJPNL will maintain the following records as a part of its M&E system:</p> <ul style="list-style-type: none"> a. Data on pressure and hours of water supply at pre-determined measurement points in the distribution network. b. Number of connections serving resident and tourist population. c. Number of people benefitting from continuous water supply including residents and tourists. <p>Each water connection is assumed to benefit 98 residents and tourists</p> <p>IVA will review data from the M&E system, billing and collection system and independent audit reports of Operator performance.</p> <p>Any shortfall or excess achievement can be adjusted in subsequent years subject the overall cap for the DLI.</p> <p>The cumulative disbursement in all years will not exceed the total disbursement allocated for the DLI.</p>
DLI 7.2	Number of additional people provided with sewerage services
Description	Access to sewerage services refers to a sewerage connection which is connected to the sewerage network. A new connection would count towards achievement if it has been provided with sewerage services for at least 30 days in the year. Number of people benefitting from sewerage services will include both resident and tourist population. As per the formula, disbursements are linked to additional persons provided with sewage services compared to the prior project year i.e. 272,000 per year under targeted values.
Data source/ Agency	SJPNL
Verification Entity	IVA
Procedure	SJPNL will maintain the following records as a part of its M&E system:



- Number of sewerage connections including any new connections on a monthly basis serving both resident and tourist population.
- Number of people having access to sewerage services.
- Day-wise record of sewage volumes received at STPs.

Each sewerage connection is assumed to benefit 98 residents and tourists

IVA will verify the records on the number of people benefitting from sewerage services as per the M&E system. IVA will verify the records from the billing and collection software. IVA will verify the records of the volume of sewage received at STP through the M & E system to confirm the additional flow of sewage into STPs.

Any shortfall or excess achievement can be adjusted in subsequent years subject the overall cap for the DLI.

The cumulative disbursement in all years will not exceed the total disbursement allocated for the DLI.

ANNEX 4. SUMMARY TECHNICAL ASSESSMENT

A. Description of the PforR Program

The GoHP's Medium-Term WSS Program

1. **The proposed operation supports the GoHP's MTP for the WSS sector.** Driven by deteriorating WSS services, a public health crisis and recognition of the negative impact of fragmented responsibilities, the GoHP has initiated transformational sector reforms as part of its WSS MTP, with a first phase for Shimla. The original design capacity of Shimla's water supply system of 57 MLD has declined to merely 40 MLD (less than 35 MLD during the dry season), far below the rapidly rising demand, currently estimated at 56 MLD. Inadequate water supply is aggravated by significant gaps in access to safely managed sanitation which excludes at least 30-40% of the population in the SMC area. The jaundice outbreak in 2016, stemming from the contamination of the water supply, as well as the 2018 supply crisis that led to severe rationing measures, have spurred the GoHP into action. *Since 2016, the GoHP has undertaken several immediate measures to address the WSS challenges, as well as developing a vision and MTP.* The GoHP's short term emergency measures included the formation of a Greater Shimla Water Supply and Sewerage Circle (GSWSSC) under the SMC, responsible for all WSS operations in the Greater Shimla Area in July 2016. Critical repairs have been carried out in the bulk water system leading to an improvement in supply from 33 MLD to 40 MLD. GSWSSC also initiated the upgrading of bulk water supply and preparation of three demonstration zones for 24/7 supply.
2. **GoHP's MTP aims to improve WSS services across the state.** The MTP has the following goals: (a) universal coverage of water supply and sanitation; (b) 24/7 continuous pressurized water supply; (c) accountability and responsiveness to citizens; and (d) decentralized service delivery through autonomous and professional institutions. The GoHP's water policy emphasizes the need for financial and physical sustainability, including tariff structures, cross-subsidization, digitization of WSS schemes and information, and auditing and accountability of service delivery. In order to implement its vision and water policy, the GoHP in 2018 laid out a roadmap for sector reforms and notified a WSS MTP for improvement of WSS services. Service delivery performance standards: The MTP aims to achieve the GoHP's core service delivery standards, i.e. a) universal access to piped water supply and sewerage, b) continuous pressurized water supply (24 / 7), and c) 100% water quality and effluent compliance. Energy efficient operations: Under the MTP, the SJPNL will increase energy efficiency measures and will target to reduce unit cost (Kwh/ m3) by at least 20% by 2025.
3. **Key trends in WSS parameters is presented below.**

Table 1. Trends in WSS Parameters

Parameters	Pre-DPL-1 (2018)	At DPL-1 Closure (2020)	Baseline PforR (2021)	Target for PforR (2026)
Water Production (MLD)	22	40	40	56
Water Demand (MLD)	56	56	56	56
Water Supply Coverage	98%	98%	98%	100%
Sewerage Coverage	60%	60%	60%	100%
Water Supply Services	1.5 hours on alternate days	2 hours per day	2 hours per day	24 X7 Continuous Supply
Collection Efficiency	70%	90%	90%	95%
Tariffs	Flat tariff	Volumetric tariff Indexed annually	Volumetric tariff Indexed annually	Volumetric tariff Indexed annually
Metering	20% with no volumetric tariff	100% with volumetric tariff	100% with volumetric tariff	100% with volumetric tariff
Energy Efficiency	7.69 KWh /m ³	7.24KWh /m ³	7.24K Wh /m ³	6.19 KWh /m ³
NRW (TBD in Yr1)	Approx. 50%	Approx. 45%	Approx. 45%	Approx. 30%
O&M Cost Recovery in Water Distribution	100%	120%	120%	175%
Quality of WS	100%	100%	100%	100%
M&E System	None	Basic M&E system	Basic	Fully integrated M&E system
GRM	GRM with 80% complaint redressal	GRM with 90% complaint redressal	GRM with 90% complaint redressal	GRM with 90% complaint redressal

Scope of the program and typology of activities

4. **The GoHP's program supports the first phase of the MTP:** The total financing under the GoHP program is US\$ 310 million between 2021-26 covering WSS service delivery improvements in Shimla city. It supports financing of the bulk water supply and distribution system for Shimla city including NRW reduction program, SCADA and automation, sewerage system, O&M program, M&E system, GRM, and capacity building activities.
5. **The PforR operation supports improvements in WSS distribution system.** The PforR operation (US\$ 250 million), comprising US\$160 million of IBRD financing and US\$90 million of GoHP financing, aims at improving the WSS distribution system for moving to 24/7 supply and 100% sewerage connections, along with improvements in operating efficiency, financial sustainability, and customer accountability in Shimla city. Investments are supported by commitments towards sustainable O&M of WSS services in Shimla city recognizing the high cost of bulk water.
6. **Expenditure financed by PforR:** The expenditure program for the PforR operation will support category B (low risk investments) for water quality monitoring and improving distribution system in Shimla city through upgrading and expanding the existing distribution system, including small pumping systems, pipe networks, storage tanks, SCADA and automation, digitization, and customer connections. Activities under the GoHP's expenditure program and the PforR operation are presented below.

Table 2. Program Financing

	Activity	GoHP Program	US\$ m	PforR operation	US\$ m
1	Bulk Water Supply	Water treatment plant, transmission mains, intake structures and main pumping systems (a) Intake structures (b) Water Treatment Plant (c) Main Pumping systems (d) Transmission mains up to Main Balancing Reservoir (MBR) at Sanjoli Transmission of bulk water supply to storage tanks	73.50 4.86 8.67 7.47 18.00 34.50	Transmission of bulk water supply to storage tanks	34.50
2	Water Distribution System	24 /7 water supply system (a) Gravity Transmission Mains (b) Balancing Reservoirs (c) Storage tanks in DMAs (d) Distribution pipelines	70.00 2.00 2.00 6.00 60.00	24 /7 water supply system (a) Gravity Transmission Mains (b) Balancing Reservoirs (c) Storage tanks in DMAs (d) Distribution pipelines	70.00 2.00 2.00 6.00 60.00
3	NRW Reduction Program	NRW Reduction Program for 43 DMAs (a) Pressure management in distribution network (b) Leak detection and metering for distribution network	8.00 4.00 4.00	NRW Reduction Program for 43 DMAs (a) Pressure management in distribution network (b) Leak detection and metering for distribution network	8.00 4.00 4.00
4	SCADA Automation	Bulk Water Transmission (a) SCADA (b) Automation Water Distribution System (a) SCADA (b) Automation	4.00 2.00 1.50 4.50 1.50 3.00	Water Distribution System (a) SCADA (b) Automation	4.50 1.50 3.00
5	Sewerage Services	Construction and upgradation of STPs (a) Construction of STPs at Panthaghati, Dhalli 2 and Mashobra (b) Upgradation of existing STPs Sewerage Network (c) New sewerage network in Shimla City (d) Extension of existing sewerage network	17.00 3.72 13.28 30.00 10.80 19.20	Sewerage network (a) Expansion of sewerage network to Panthaghati, Dhalli 2 and Mashobra unserved areas of Shimla City (b) Extension of existing sewerage network to unconnected customers	30.00 10.80 19.20
6	O&M	International Utility Experts (2) Salaries, energy charges, O&M costs for WSS services	2.50 92.50	International Utility Experts (2) Salaries, energy charges, O&M costs for WSS services	2.50 92.50
7	M&E and GRM	M&E System and GRM (a) M&E System (b) GRM	3.00 1.75 1.25	M&E System and GRM (a) M&E System (b) GRM	3.00 1.75 1.25
8	CB	Capacity Building	5.00	Capacity Building	5.00
	Total		310		250



7. **The PforR operation supports service delivery improvements by improving the water supply distribution system and expanding sewerage networks in Shimla city.** This includes upgrading and expanding the existing distribution system, including small pumping systems, pipe networks, storage tanks, SCADA and automation, digitization, and customer connections.

- (i) **Transmission of Bulk Water Supply to Storage Tanks:** This activity will support transmission of water supply from Main Balancing Reservoir (MBR) to storage tanks in the distribution system. This activity involves upgradation and replacement of existing pipes to transmit water to storage tanks at the DMAs. The activity includes installation of small pumping systems and distribution transmission lines. Due to geographical features, some of the transmission lines will require small pumping systems to convey water to the storage tanks located at higher elevations as per the hydraulic modelling undertaken by SJPNL. Transmission pipelines will be laid to connect the balancing reservoirs with the storage tanks in the DMAs.
- (ii) **Water Distribution System:** This activity will include laying of transmission pipelines to connect the MBR with the storage tanks at the DMAs. These transmission pipelines will convey water under gravity flow. Also, some existing storage tanks will be upgraded to make these compatible with hydraulic design for continuous pressurized water supply.
- (iii) **24/7 Water Supply System:** Within Shimla city, the distribution network improvements will be undertaken to provide city-wide continuous water supply at the customer connection points. Two small Balancing Reservoirs (BRs) will be constructed as required by the hydraulic model for 24/7 water supply to maintain pressure and the agreed service delivery parameters. The main purpose of these BRs is to ensure equal distribution of water supply to the various DMAs. These small BRs will be constructed using Reinforced Cement Concrete (RCC) with storage capacity of approximately 7 MLD each, to cater to the water demand in their respective service areas. This distribution network will be regulated through SCADA enabled automated system. The Program will include laying of transmission and distribution network. In addition, DMA level water storage will be augmented.
- (iv) **NRW Reduction Program:** The NRW reduction program, including leak detection, will be carried out through bulk water meters, pressure reducing valves (PRVs), and AMR meters at the customer end. This activity will help in reducing the NRW by 15% by the end of the project period. There are 43 DMAs proposed for Shimla city for NRW reduction and installation of PRVs. The NRW in Shimla city would be reduced by installation of pressure control valves, replacement and metering of house service connections and a comprehensive program of leak detection and pressure management. The NRW reduction program will be undertaken in the 43 DMAs to achieve the overall NRW reduction target. The PRVs will be installed in select zones in Shimla city.
- (v) **SCADA and Automation:** SCADA enabled fully automated Bulk Water Management System will be implemented to measure, record and regulate water flow and water levels in the storage tanks. This will include water quality, pressure management, and residual chlorine in the distribution network. Digital assets will be created covering customer database, geospatial data, infrastructure, finance, billing and collection and customer service data. A central command centre will be established under this activity to facilitate real time operational information.
- (vi) **Sewerage Services:** The Program will provide sewerage connectivity to unserved areas through expansion of existing networks and increasing coverage from 60% to 100% through household and commercial connections. The Program will (a) expand the existing network to Panthaghati, Dhalli 2 and Mashobra unserved areas of Shimla City; and (b) extend the network in already served areas to the unconnected residents. The expansion and extension will help achieve 100% sewerage coverage in Shimla city. The sewerage network within Shimla city will be upgraded to ensure improved sewerage services. The sewage collected will be treated in the STPs under the larger GoHP program, outside the PforR operation.
- (vii) **Operation & Maintenance:** This will address requirements for WSS operations and maintenance cost in Shimla city. This will include manpower costs, energy charges, and repair and maintenance costs. SJPNL will hire services of two international utility experts to advise the SJPNL on technical and utility management practices to achieve the performance-based targets as per the MTP.
- (viii) **M&E Systems and GRM:** M&E system will be upgraded from the present manual system to IT enabled system with a strong GRM for ensuring high level of customer accountability. This system will help the management in supervising and evaluating the project implementation progress and suggesting corrective action to achieve the overall program objectives.

(ix) **Capacity Building:** The Program will enhance capacity of SJPNL employees on technical, financial, and management aspects along with IT systems. This will focus on on-job trainings, workshops, exposure visits and association with world class water utilities for experience sharing, learning and development. Two international experts will be hired to bring good practices to the utility.

8. **OP 7.50 on International Waterways:** The PforR activities will be located in Shimla City which uses waters of the Sutlej River for water supply and treated wastewater is discharged into the Sutlej River's tributaries. The Sutlej River is considered an international waterway, as defined in paragraph 1 of the OP 7.50. The activities financed under the Program are limited to rehabilitation, minor expansion, and improvement of the existing WSS system and will not adversely change the quality or quantity of water flows to other riparians. The task team has determined that the Program activities fall within the exception to the notification requirement under paragraph 7(a) of OP 7.50 and that riparian notifications are not required. The exception was approved by the RVP on March 31, 2021.

B. Results Framework

9. **The Program will support the objectives of GoHP's WSS MTP.** It will a) Improve governance, managerial and financial autonomy of SJPNL, b) Improve efficiency, financial sustainability and customer accountability, and c) Improve water supply and sewerage services in Shimla city.

(a) *Result Area 1: Improved governance, managerial and financial autonomy:* The proposed Program will support SJPNL to strengthen the implementation of the corporate policy and institutional development program initiated under the DPL-1. The SJPNL will develop its Strategic Business Plan including corporate strategic focus and priority areas, and key performance indicators on quantity and quality of water, billing and collection, cost recovery, NRW, etc. The priority areas and indicators will be consistent with the WSS performance targets under the MTP and the performance scorecard targets of the SJPNL. The Program will incentivize the strengthening of performance policies, managerial and financial autonomy, efficient operations, and financially sustainable services. The PforR will strengthen the managerial autonomy through internal delegation of powers and developing key results areas for each function /department for accountability. Annual performance evaluations will be conducted and linked to the performance incentive system of SJPNL. SJPNL will strengthen and implement the performance-based contracts with private operators, with incentives linked to achievements of the related performance indicators. Financial autonomy of SJPNL will be strengthened by timely tariff revisions and increase in revenue earnings.

(b) *Result Area 2: Improved efficiency, financial sustainability, and customer accountability.* The Program will incentivize 100% metering with volumetric tariffs, NRW reduction, energy efficiency improvements, billing and collection efficiency, and grievance redressal measures. Automatic tariff indexation will be carried out on an annual basis. The NRW in the water distribution network will be reduced by 15% below the baseline which will be determined in year one of the operation. The SJPNL will upgrade the metering program to Smart Meters. Energy efficiency improvement programs will be taken up to reduce energy consumption in pumps and transmission systems. The financial sustainability of SJPNL will be measured by the extent of volumetric billing, collection efficiency, and O&M cost recovery for WSS services. The M&E system will be upgraded and linked to key indicators on service delivery performance. Annual customer surveys will be conducted to assess satisfaction with service delivery and identifying interventions for addressing WSS service delivery issues. Annual reports on SJPNL performance, audited financial statements, customer satisfaction, and citizen report cards will be published and disclosed.

(c) *Result Area 3: Improved Water Supply and Sewerage Services.* The Program will incentivize city-wide coverage with 24/7 continuous water supply and sewerage services. The Program will gradually improve WSS services in Shimla city to achieve the Service Level Benchmarks of GoI for WSS. The SJPNL will implement the distribution improvement program through performance-based contracts with private operators on targets for continuous water supply, NRW reduction, billing and collection efficiency, and grievance redressal measures. The payment to service providers will be linked to their performance and the service providers will have full operational control and freedom to engage their own staff, equipment, instruments and systems. The

SJPNL will have full access to information systems maintained by the service providers, including the customer grievance redressal mechanism and complaints database.

C. Strategic Relevance

10. ***The Program's strategic relevance is high as it is fully aligned with the GoHP's MTP and vision for the WSS sector.*** It makes a clear contribution to the GoHP's MTP (2018-30) for Shimla through universal coverage of water supply and sewerage services, 24/7 supply of water, promoting public health, accountability and responsiveness to citizens, and decentralized service delivery through autonomous and professional institutions. It is in line with the State Water Policy which aims at making adequate, safe and sustainable drinking water facilities available for all urban areas in the state, with an emphasis on 24/7 access to water supply and metering of connections.

11. ***The Program aligns with the MTP priority for Shimla in the first phase where the need for improvement is high and immediate.*** The choice of Shimla in the first phase is sound. Shimla is the capital city of Himachal Pradesh and is a popular tourist destination, with 3.4 million tourists visiting annually. It was affected by a major public health crisis in the year 2016 due to the jaundice outbreak. Citizens had poor confidence in water quality and the tourism industry suffered due to the water crisis. The households and tourists will benefit from access to safe and reliable water supply and sewerage services, health benefits due to reduced incidence of diseases, benefits from reduced coping costs, and increase in available productive time. The Program supports sustained economic contribution from the tourism sector. Moreover, subsidy savings due to increased cost recovery is expected to result in lesser grant-in-aid from the government. The Program also consolidates gains achieved under the DPL-1.

12. ***The Program targets high level institutional actions necessary to transform service delivery.*** The proposed operation forms part of the COVID-19 response and also addresses key long-term challenges identified by both GoHP's own assessments²⁸, which advocate a comprehensive focus on policy and institutional reform for improving services, as well as the recommendations of a study commissioned by the World Bank²⁹ on Shimla and the WSS sector in Himachal Pradesh. This institutional study outlined a pathway to reform including corporatization, ownership and management options, clustered development, a cost recovery roadmap and regulatory mechanism. The Program is consistent with these strategic studies and consultations by emphasizing a departure from the traditional focus on infrastructure creation in favor of a) WSS policies for operational and financial sustainability, b) WSS institutions with autonomy and performance orientation, and c) service delivery and accountability to WSS customers. The Program is also well aligned with the National Water Mission's objective of conserving water, minimizing wastage and ensuring equitable distribution³⁰. The Program measures and incentivises tangible results in these high-level institutional actions, thereby consolidating the gains made under the DPL-1. It will also provide a strong institutional and governance platform to sustain results achieved in service delivery.

D. Technical Soundness

13. ***The Program activities are fully aligned with GoHP's vision under the MTP:*** The expenditure program financed under the PforR and by GoHP is fully aligned with GoHP's MTP and vision for the WSS sector. It targets service delivery, environmental sustainability, operational efficiency and financial sustainability for both water supply and sewerage services. The expenditure program addresses both infrastructure and service delivery requirements on a parallel basis.

14. ***The Program focuses both on service outcomes and the enabling environment:*** The results target the next level governance requirements, such as a) business planning and performance improvement, b) performance orientation within SJPNL, and c) exercising the autonomy provided to SJPNL. The Program's focus on efficiency, financial sustainability and customer accountability is a well-designed sequence after addressing water quality and bulk water availability aspects. As a priority activity, SJPNL has focused on stabilizing water quality and bulk water availability to cope with the public health and water crisis. In parallel, SJPNL

28 Report of the committee chaired by Additional Chief Secretary (Health), 2016, GoHP.

29 Institutional Options Study for the Proposed Greater Shimla Water Supply and Sewerage Project, 2018.

30 National Action Plan on Climate Change (2008) ([link](#)).

also undertook efficiency improvements and achieved appreciable results. The Program now sets quantitative targets for efficiency which are in line with the GoHP policies and performance standards. The governance and efficiency improvements will establish a strong enabling framework to sustain service delivery outcomes. The results areas focus on universal coverage with 24 / 7 water supply and sewerage services. The supporting actions for these are in place with the GoHP program financing adequate bulk water availability from perennial sources and adequate wastewater treatment capacity. Demonstration projects have already been taken up by SJPNL to provide 24 / 7 water supply. SJPNL also has the freedom to enter into performance-based contracts with private sector to achieve these results, which are already in procurement stage.

15. ***SJPNL has the autonomy and the resources needed to achieve results:*** The expenditure required to meet the service delivery improvements are fully funded under the PforR and by GoHP financed program. SJPNL has the necessary autonomy to take up activities to achieve governance and efficiency improvements. It has been authorized to institute performance incentive policy and to enter into performance-based contracts with the private sector. The tariff structure authorizes SJPNL to carryout annual indexations. SJPNL also has full financial and operational autonomy for all WSS related matters.

16. ***Performance targets are well designed and reflect baseline conditions and past performance.*** In the past three years, SJPNL has carried out several assessments to estimate baseline performance for its results areas. The targets set under PforR reflect the baseline (e.g. energy efficiency, cost recovery, sewerage coverage) and are realistic. The proposed PforR operation has been developed based on the lessons of the ongoing reforms in Shimla under the DPL-1, including extensive consultations with stakeholders in several workshops. The proposed targets under the PforR are a coherent, technically sound extension of prior achievements of the ongoing reforms in terms of institutional autonomy of SJPNL, its organizational structure and human resource capacity, and the utility's corporate governance and performance focus, notably in terms of service improvement targets such as continuity of supply, loss reduction, and customer orientation, as well as sustainability challenges such as energy efficiency. The PforR is embedded in the overall GoHP's WSS MTP and constitutes a logical next step to entrench and deepen reforms in Shimla prior to a possible expansion of SJPNL's services to additional towns. The GoHP has already undertaken in-depth consultations on a possible expansion in order to ensure its technical and institutional coherence with ongoing reforms in Shimla.

E. Monitoring and Evaluation

17. **The Program includes strengthening of the existing M&E system and activities to automate and digitize data collection:** Under the Program, the existing M&E system will be updated to collect data on the Results Areas, DLIs, and Intermediate Results Indicators. The monitoring system would also record data on financial management, commercial management, technical operations, contract management, institutional performance, social and environmental considerations and grievance redressal system. The IT Department would be responsible for feeding data into the monitoring system. Respective departments would be responsible for collecting data. M&E capacity of all stakeholders involved would be enhanced through relevant trainings. The results of surveys, citizen report cards, performance reviews and audits will be disclosed to the public and emphasis will be on sharing information with SMC and other stakeholders. There shall be suo-moto disclosure of key information (physical, financial, administrative) on the company website. An IVA will be hired by the SJPNL and be responsible for the annual verification of DLIs.

18. The data at present is recorded at various levels - field level (zones, water testing labs etc.), department level and senior management, and does not have adequate automation or digitization. The program activities include SCADA and digitization which will enable routine and automated collection of operating information. Smart meters will provide consumption data at the consumer level. The program activities include upgradation of the financial management and accounting systems of SJPNL to sector standards. The WSS contracts with SJPNL will require the operators to collect and report data to SJPNL, to meet performance assessments of the operator, as well as the M&E requirements of the Program. The service providers would also be responsible for implementing the customer database, and monitoring systems, billing and collection systems, and GRM. SJPNL will have concurrent access to the information systems of the operators. The information collected and reported by the operators is also audited independently as per contract provisions.



19. **SJPNL has the necessary governance arrangements for performance monitoring and reporting:** The BoD of SJPNL sets and monitors the operational performance of SJPNL and the Independent Directors are responsible for regular review of operational performance and corporate governance. SJPNL is audited by external auditors and the internal audit is also in place.

F. Program's Governance Structure and Institutional Arrangements

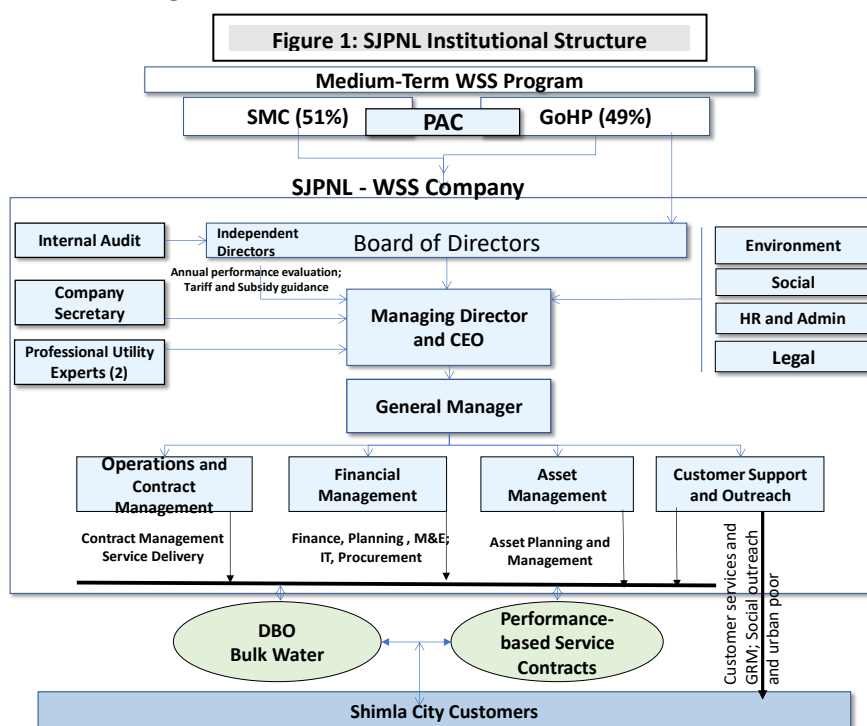
20. **The Program benefits from the unified institutional structure for WSS in Shimla.** Since 2016, GoHP and SMC have integrated WSS arrangements in Shimla. The multiplicity of service delivery agencies with fragmented responsibilities have been consolidated under a single agency, which is SJPNL.

21. **Governance Structure:** The corporate governance framework for SJPNL was established under the DPL-1, with the BoD chaired by the Chief Secretary of GoHP. The BoD oversees corporate Governance and performance of SJPNL. It also provides guidance on tariff and subsidies to GoHP and SMC. The members of the BoD include: (i) Chairperson and Director; (ii) Chief Secretary, GoHP; (iii) Director - Secretary (Urban Development, GoHP); (iv) Director - Secretary (Finance, GoHP); (v) Director - Secretary, IPH, GoHP; (vi) Director - Mayor, SMC; (vii) Director - Deputy Commissioner, Shimla; (viii) Director- Commissioner, SMC; (ix) MD cum CEO - Appointed by Board of Directors and GoHP; (x) Independent Director - Representing citizens/ civil society, appointed by Board of Directors; (xi) Independent Director - WSS professional, appointed by Board of Directors.

22. **Institutional Arrangements:** The Urban Development Department is the nodal department for implementing the Program. The implementing agency for the Program will be the SJPNL, which has the mandate to provide WSS services in the city of Shimla. The BoD has been given full delegation of powers by GoHP and SMC for all WSS related matters. The GoHP will establish a Program Advisory Committee (PAC) to advise the BoD on the implementation of the Program and achievement of the agreed results. The PAC will meet on a quarterly basis to review the implementation progress and provide suggestions for improving performance. The PAC will comprise Secretary Finance, Secretary UDD, Mayor SMC, Commissioner SMC, and the MD-cum-CEO SJPNL.

23. **Implementation Arrangements:** SJPNL will be responsible for all Program related activities including planning, procurement, management and monitoring. It will be responsible for financial control and management and citizen engagement, including GRM. SJPNL will also be responsible for ensuring conformance with environmental and social safeguards. SJPNL is responsible for achieving all results under the Program and for independent verification of the results.

24. **Program Management Unit (PMU):** A dedicated team of experts will assist the SJPNL management in carrying out the day-to-day operations of the Program. The PMU would include an IT Expert, Procurement/ Contract Expert, Water Supply Expert, Sewerage Expert, Finance Manager, Environment Safeguards Expert, Social Safeguards Expert and Program Monitoring Expert. Independent engineers will oversee the performance of private operators under the performance-based contracts. SJPNL will also hire a full-time communications manager and junior officers for communication.



25. **Independent verification:** The IVA and statutory auditors of SJPNL will function as independent agencies verifying the Program results and financial statements respectively. The IVA will be responsible for monitoring progress against the DLIs and recommendations for disbursements.

26. **Strengthening SJPNL's organization structure:** In order to further strengthen its capability and bring in better practices, SJPNL will hire a General Manager with utility management experience to oversee day to day operations. It will establish a subcommittee of BoD for employee related policies. SJPNL has entered into a partnership with Aguas de Portugal under the World Bank's Utilities of the Future Program. This partnership provides SJPNL with guidance on strategic planning and creating modern WSS utility systems within SJPNL, including advice on contract management.

27. **PPP contracts will strengthen SJPNL's implementation capacity:** SJPNL will enter into Design Build Operate (DBO) and Performance Based Contracts with specialist private sector organizations to leverage expertise available in the private sector. SJPNL has already entered into a DBO contract for bulk water offtake, treatment and transmission from river Sutlej. The project has a construction period of three years and O&M period of 10 years. The payment to the operator is linked to actual volume of water delivered, water quality, energy efficiency and water loss. The SJPNL has also initiated procurement of an Operator for implementation of continuous pressurized water supply project in Shimla city. The contract includes performance parameters such as continuous water supply, reduction of NRW, strengthening billing, collection and customer grievance redressal system.

G. Institutional Assessment of SJPNL

28. **An institutional assessment has been carried out for SJPNL based on the World Bank's Water Utility Turnaround Framework (WUTF)³¹.** The institutional assessment of the SJPNL has been undertaken on the following aspects: (i) Strategic Orientation and Planning ; (ii) Corporate Governance, Strategic Leadership and Autonomy; (iii) Organizational Structure, Capability, and Human Resource Management (iv) Technical Operations, (v) Commercial Operations, (vi) Financial Management and Monitoring Systems, and (vii) Customer and Services Orientation. For each of the areas, the aim is to assess the SJPNL in comparison with features of a well-run, mature utility, and 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 (1 indicating 'Elementary', 2 indicating 'Basic', 3 indicating 'Good', 4 indicating 'Well Performing' and 5 indicating 'World Class'). These have been arrived based on interviews, observations, document reviews and interactions with key functionaries.

29. **SJPNL has made significant strides on WSS Utility parameters.** Compared to the institutional baseline of the GWSSC in 2016, the SJPNL has put in place several frameworks, processes, structures and policies during the last three years, which puts it on a firm footing for future initiatives. The organization has achieved a higher score on the maturity rating on Commercial Operations (metering and stablishing a tariff policy), Corporate Governance, Strategic Leadership (structure of the BoD and providing a stable tenure to the MD cum CEO, etc.) and Customer and Service Orientation (grievance redressal, involvement of citizen groups, etc.). Many of these initiatives are understandably recent and need to be further reviewed over a longer time frame for the organization. The figure presents the overall assessment of SJPNL (details in Annex 11).

H. Financial Analysis

Figure 2: Institutional Assessment



³¹ Water Utility Turnaround Framework - A Guide for Improving Performance, World Bank 2018.

30. **The Program supports SJPNL in strengthening its financial autonomy with an efficient tariff structure and committed subsidies for bulk water.** It is poised to achieve significant improvements in service levels, operational efficiency, and cost recovery. Shimla already has one of the highest costs of supply due to the high altitudes to which bulk water is pumped. The Program improves bulk water availability by 33%, increase in water supply from 2 hours daily to 24/7 supply city-wide, increase in sewerage coverage by 40% and wastewater treatment volume by 2.5 times. While this increases the WSS O&M cost in FY 26 by 1.98 times the cost in FY 20, the Program incentivizes several operational efficiency improvements, including reduction of NRW by 15% and energy efficiency improvements by 20%, thus moderating the water production requirements and the costs of production. As a net effect of these measures, the WSS cost in FY26 are brought down to 1.3 times FY20 costs as compared to 1.98 times without the operational efficiency improvements.

31. **Revenue collection improves as a result of the new tariff and subsidy policy.** All customers are charged on an increasing volumetric tariff basis. 100% metering has already been achieved. The conversion of shared connections, which were paying a single flat monthly charge irrespective of consumption, to individual connections improves the billing and collection. The tariff is also automatically indexed every year. As a result of these measures, the revenue in FY26 is 2.5 times the FY20 revenue. Without these measures, revenue in FY26 would have been only 1.43 times of FY 20 revenue.

32. **The operational improvements and the new tariff and subsidy policy stabilize the finances of SJPNL.** Table 3 and Figure 3 present the implications on cost recovery and subsidies under two scenarios: (a) without the operational efficiency improvements and the tariff policy, and (b) with operational efficiency improvements and the tariff policy.

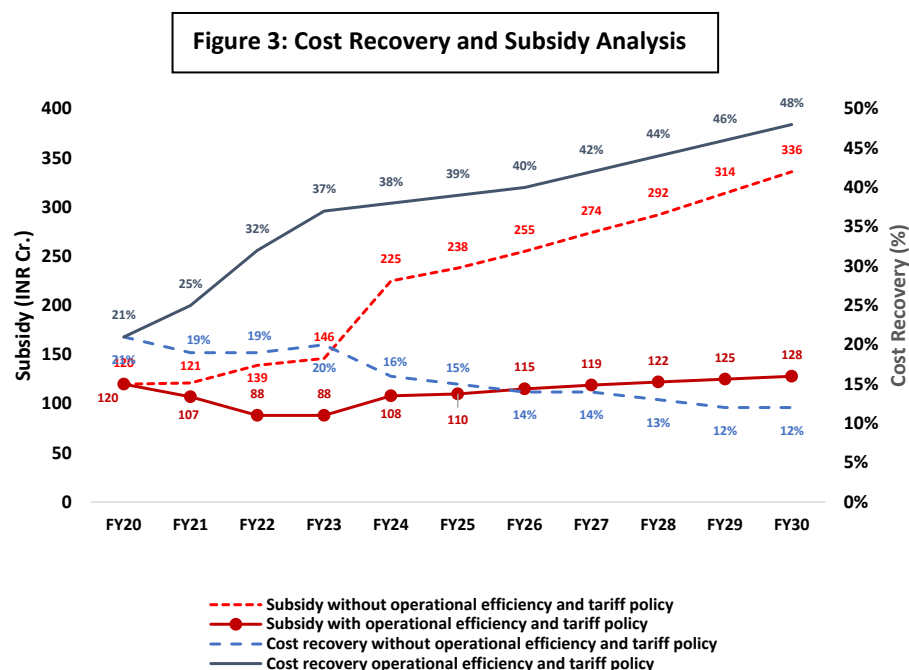


Table 3: Cost Recovery and Subsidy Analysis

Parameter	FY2020	FY2026	
		Without operational efficiency and tariff policy	With operational efficiency and tariff policy
Cost increase per annum (%)	-	12.1%	5.1%
Revenue increase per annum (%)	-	6.2%	14.4%
WSS O&M subsidy required (US\$ million)	16.43	34.93	16.91
WSS O&M Cost Recovery (%)	21%	14.4%	40.2%
Water Supply O&M Cost Recovery intra city distribution (%)	120%	103%	175%



33. With only an infrastructure creation approach, i.e. without efficiency improvements and tariff policy, the WSS O&M cost recovery falls from 21% in FY20 to 14.4% in FY26, mainly due to increasing costs of bulk water supply and wastewater treatment. Even after FY26 there is a further fall since tariff is not revised regularly, and by FY30 the O&M cost recovery reaches 11.8%. As a result, the annual subsidy requirement increases rapidly from Rs 120 crore in FY20 to INR 255 crore by FY26, and INR 336 crore by FY 30. These are well above the subsidy level of INR 120 crore committed by GoHP.

34. However, with the operational efficiency improvements and implementation of the tariff policy there is significant improvement in O&M cost recovery and reduction in the subsidy requirements. Under this scenario, the WSS O&M cost recovery improves rapidly to 40.2% by FY26 mainly due to NRW reduction, energy efficiency improvements and annual tariff revision. Thereafter, with annual tariff revision, there is a steady increase in O&M cost recovery reaching 48.1% in FY30. The subsidy requirement stays well below the GoHP commitment, at Rs 115 crores in FY26.

35. **The potential for financial gains from the Program is significant.** The projected annual subsidy requirements are within the GoHP commitments of INR 120 crores per annum. The pro-poor provisions in the tariff structure limits WSS expenditure of the poor to about 2% of the household income. The Program recognizes the high cost of WSS services in Shimla and pursues a balanced strategy of increasing O&M cost recovery while providing targeted GoHP subsidies to offset the high cost of bulk water.

I. Economic Analysis

36. The Program has a strong economic rationale with an ERR for the Program estimated to be 25.3% due to significant benefits from improvements in WSS services. The cost-benefit analysis of the proposed Program is based on inputs from household surveys and focused group discussions carried out by SJPNL. The quantifiable direct and indirect benefits due to the proposed Program interventions are: (i) *Benefits due to reduction in operational costs* - reduction in NRW and improvements in energy efficiency leading to savings in O&M cost; (ii) *Benefits due to incremental water supply* - availability of water supply is expected to increase from 40 MLD in FY 2020 to 107 MLD in 2050; (iii) *Benefits due to savings in coping cost* - reduction in usage of water tankers especially benefitting the non-domestic customers, including hotels, and reduction in the domestic cost for water storage tanks, water purification systems, etc); (iv) *Health benefits from improved water supply* - reduction in several diseases - diarrhea, hepatitis, dengue, malaria associated with poor quality of water, valued as the opportunity cost of person days lost due to Disability Adjusted Life Years - DALYs, (WHO estimates 2016).

Table 4: Summary Economic Analysis

Summary Economic Benefits	Benefits	Estimated Benefits (USD million)	Percent
	Benefits due to expected reduction in operational costs	353	9%
	Total value of incremental water	161	4%
	Savings in coping cost (domestic and non-domestic)	3223	79%
	Health benefits	323	8%
	Total benefits	4061	
Summary Economic Costs	Costs	Estimated Costs (USD million)	Percent
	Capital expenditure (capex)	210	12%
	Operational expenditure (Opex)	1,498	88%
	Total Cost	1708	
Sensitivity Analysis	Parameter	ERR	Benefit cost ratio
Increase in total costs (capex + opex) and	Increase in total cost (capex + opex) by 10% and decrease in total benefits by 10%	18.6%	2.05
	Increase in total cost (capex + opex) by 20% and decrease in total benefits	13.0%	1.67



Summary Economic Benefits	Benefits	Estimated Benefits (USD million)	Percent
	Benefits due to expected reduction in operational costs	353	9%
	Total value of incremental water	161	4%
	Savings in coping cost (domestic and non-domestic)	3223	79%
	Health benefits	323	8%
	Total benefits	4061	
	decrease in total benefits by 20%		
	COVID-19-like pandemic in future – tourist footfall reduces by 25%	18.5%	2.0
	COVID-19-like pandemic in future – tourist footfall reducing by 50%	12.2%	1.6

37. The analysis covers a period of 30 years. The analysis includes capital expenditure for the period FY21 to FY26 and O&M expenditures for the period 2020-21 to 2050-51. The sensitivity analysis indicates that the Program can absorb 20% increase in total costs (capex + opex) and 20% decrease in overall benefits and yet result in a positive ERR of 13%. The Program can also absorb 50% reduction in tourists due to COVID-19 and yet result in a positive ERR of 12.2%. The ERR is a conservative estimate since benefits that are more difficult to quantify have not been included, such as benefits from strengthening the SJPNL institution, policy and M&E systems, customer accountability and grievance redressal mechanism, etc.

J. Fiscal Analysis

38. Himachal Pradesh, a Special Category State is the 17th largest in India, in terms of geographical area and the 20th largest by population. The GSDP of the State at constant prices has increased by 71% from INR 72719.83 crore in 2011-12 to INR 124403.21 crore in 2019-20 (RE) with an average annual growth rate of 7 per cent. In FY 2019-2020 (RE), share of primary, secondary, and tertiary sectors in GSDP were 12.96%, 46.50% and 40.53% respectively.

Fiscal Sustainability

39. The GoHP enacted the Fiscal Responsibility and Budget Management (FRBM) Act in April 2005 which was further amended by Act No. 25 of 2011 to ensure prudence in fiscal management, fiscal sustainability, and greater transparency in fiscal operations of the GoHP. The State achieved the targets of eliminating the revenue deficit and maintained surplus as prescribed in the FRBM during FY 2015-18 due to increase in central devolutions as per the recommendations of 14th Finance Commission. The average Gross Fiscal Deficit, which was 4.3 per cent during the period 2012-15 decreased to 2.9 per cent during the period 2015-19. The average Primary Deficit of the state also decreased from 1.3 per cent during 2012-15 to 0.2 percent during 2015-19. However, due to a decline in the divisible pool of central taxes in FY19/20 followed by the sharp contraction in economic output in FY20/21 on account of the COVID-19 pandemic, the state's fiscal position has deteriorated. The fiscal deficit increased to 3.4 percent of GSDP in FY19/20 and is estimated to have increased to 4.6 percent in FY20/21. As a result, the state's outstanding debt is also estimated to have increased to over 39 percent of GSDP in FY20/21. That said, the 15th Finance Commission has recommended a small increase in the state's share of central taxes and a substantial revenue deficit grant of over INR 48 billion (about 28 percent of GSDP), spread over a six year period from FY20/21 to FY25/26. These transfers from the central government will bolster the state's finances and the debt-to-GSDP ratio is projected to peak at 40.6 percent in FY22/23 before starting to decline again.

Himachal Pradesh Budgetary Allocation and Expenditure Analysis

40. **Overall Expenditure:** During FY 2015-16 to FY 2019-20 (RE), the revenue expenditure has been significantly higher than the capital expenditure (85%:15% in the past two years). However, the Capital expenditure of the state has doubled from 2015-16 to 2019-20 (RE) with an annual average growth rate of 29% as against 14% in case of Revenue expenditure.

41. **Expenditure on Water and Sanitation:** Water Supply and Sanitation ranks fifth in terms of proportion of development expenditure. The state has spent INR 1559 crore for the development of water supply and sanitation sector which is 7 % of its total development expenditure during 2018-19. It is observed that revenue expenditure has dropped by 14% from 2016-17 to 2017-



18. However there has been an increase in capital expenditure over the years, with an average increase of 16% as against 8% increase in revenue expenditure during 2015-2020, as seen below.

Table 5: Expenditure on Water Supply and Sanitation

Year	Revenue Expenditure	Capital Expenditure	Total Expenditure	Percentage change
2015-16	882.1	318.0	1200	8
2016-17	1137.4	392.6	1530	27
2017-18	982.9	461.6	1444	-6
2018-19	1141.4	417.7	1559	8
2019-20 (RE)	1139.5	586.4	1726	11

Source: State Finances: A Study of Budgets, Reserve Bank of India (various years)

42. The State has a significant focus on capital expenditure on water and sanitation program over the past few years. The proposed program is unlikely to significantly impact the fiscal trajectory of the state detrimentally. The program financing of US\$173 million over five years is small relative to total average expenditures of the GoHP which is US\$ 4.7 billion, on average, yearly between FY16 and FY20.

K. Technical Risks and inputs to Program Action Plan

43. **The Technical Design of Program Risk is rated as Moderate.** The SJPNL has demonstrated significant achievement under DPL-1, showing that performance-based service delivery can be implemented successfully by ensuring contracts are of good quality, based on market sounding and sector experience. SJPNL is in the process of procurement of operator for 24/7 water supply project in Shimla. The project will help the city in making transition towards 24/7 water supply. In addition, SJPNL has recently signed an agreement for a Bulk Water Project to treat and transmit water to the main storages in Shimla. Each of the individual contracts have performance targets and associated linked incentives and penalties which are aligned to the overall program design. Both these projects have a provision as a part of the overall program design, wherein the private operator will prepare SIPs that need to be in approved by SJPNL. This gives SJPNL adequate opportunities to address any technical design issues.

44. **The Institutional Capacity for Implementation and Sustainability Risk is rated as Substantial.** SJPNL as the implementing agency for the program has benefited from institutional capacity developed and progress already made under the DPL-1. The organization has developed itself into a multi-disciplinary organization by inducting resources from market with skillsets including that of a Finance Manager, Contract Manager, Communications Specialist, Company Secretary, Customer Relationship Manager, Human Resources Expert, Environment Expert, Grievance Redressal Executive and Commercial Executives. Nevertheless, the continued implementation of reforms, in the operationally complex and fiscally constrained environment resulting from the COVID-19, will demand high capacity to manage risks, in particular in relation to financial sustainability targets.

45. **The PAP includes measures to mitigate these risks (Annex 8).**

ANNEX 5. GENDER ASSESSMENT

1. **Objective:** The Program aims at strengthening employment opportunities for women in SJPNL and the WSS sector, through (a) project related activities, and (b) other activities which can help in building a pipeline of female professionals for future hiring in SJPNL.
2. **Background: Globally, women continue to be under-represented in the water and wastewater sector and on an average comprise 18% of total utility staff, and 23% of engineers and managers in utilities.**³² In South Asia³³, female employment in WSS utilities is much lower where female labor force participation rates tend to be lower. Two factors emerge – *first*, in India, women students constitute only 26 percent of enrolled students in engineering courses and their transition to technical roles and entrepreneurship opportunities in traditionally male-dominated sectors such as water and sanitation is low. In addition, a large share of women (20%) who enter the workforce in STEM-related fields in India quit within the first year.³⁴ *Second*, the female labor force participation rate in the urban sector remains low at 28% pointing towards limited opportunities for women in non-farm sectors. This trend is evident in Himachal Pradesh where there is greater participation of women in agriculture and related sectors in rural areas, while in urban areas they are engaged in areas of medicine, hospitality or engaged in running small petty family businesses. Their participation in engineering roles is limited due to the technical aspects and tough hilly terrain in the state.
3. **SJPNL has prioritized improving women’s effective participation in WSS management and service-delivery.** Global evidence shows that gender diversity in the workplace in WSS utilities is linked to better performance, enhanced customer satisfaction, and improved community relations.³⁵ Following-up from the first DPL, the SJPNL has continuously strived to improve women’s participation in technical roles. Currently the utility with a strength of about 400 employees, has 60 employees on contractual positions³⁶, with further hiring ongoing from the market to reach a target of 80 contractual employees by March 2022. Sixteen of these employees are females including seven in executive roles. In addition, SJPNL has about 50 paid volunteers working as Jal-Sakhis (friends of water) working in various localities of the city. These groups form a vital link between SJPNL and its customers and report on issues relating to poor services, low pressure, quality issues, as well as educate women and children about water usage and conservation. The SJPNL has prioritized a number of actions to further address the gender issues within the Program as well as motivate women to take up technical careers in the WSS sector.
4. **Activities within the Program:** SJPNL shall take up the following activities under the Program to ensure that gains made on ‘gender aspects’ under DPL-1 are sustained and improved upon:
 - i) **Female staff in contractual positions:** SJPNL will ensure that female staff in contractual positions, existing and new, are maintained at 30% throughout the Program period. This will address the issues related to the short-term nature of the contractual hiring processes. Furthermore, contractual appointments are one of the few and main pathways to more permanent opportunities in SJPNL, especially since changes in the existing permanent staff are not likely in the immediate future in the COVID-19 context. The contractual employment target for women at 30% is higher than what has been achieved so far and significantly higher than the overall female employment in the SJPNL, and thus, this target would translate into a reduction of the employment gender gap in SJPNL.

³² World Bank. 2019. *Women in Water Utilities: Breaking Barriers*. World Bank, Washington, DC.

³³ Data from Bangladesh and Pakistan shows that women comprise less than 6% of utility staff (World Bank. 2019. *Women in Water Utilities: Breaking Barriers*).

³⁴ World Bank, 2019. *Women in Water Utilities: Breaking Barriers*. World Bank, Washington, DC.

³⁵ World Bank. 2019. *Women in Water Utilities: Breaking Barriers*. World Bank, Washington, DC.

³⁶ These positions are renewed every year depending on performance.



- ii) *HR Policies*: As part of its HR strengthening activities, SJPNL shall review its HR policies and revise as required, policies related to leave, flexible timings, hygiene facilities, creche facilities, etc., to address issues related to work-life balance. SJPNL will also provide opportunities for formal training programs, including mentoring for career guidance, aimed at career advancement and retention of existing women employees.
 - iii) *Business Plan of SJPNL*: SJPNL will carry out the *Equal Aqua Assessment* to inform its Business Plan for the next five years regarding the gender assessment³⁷ and specific measures to enhance *gender equality* in the workplace, particularly in technical and managerial positions.
 - iv) *'Women only managed Billing Centres'*: SJPNL shall convert the 'Billing Centres' and the GRM to be managed by 'women only' staff.
 - v) *Integrating Jal Sakhis into the Program*: SJPNL shall explore ways to integrate the cadre of Jal Sakhis (friends of water) into the overall Program, including training them to take up communication and awareness raising programs.
5. ***Building a pipeline of female professionals for future hiring***: SJPNL shall also implement specific activities to build a pipeline of female professionals for future hiring in SJPNL and more broadly in the WSS and other sectors:
- i) *Internship Program at SJPNL*: SJPNL shall take up an 'Annual female-only Internship Program' to bring on board at least 5 female interns for 3-6 months 'hands-on' training on a small stipend, in fields such as M&E and GRM systems, accounting, and financial management systems, etc. This will help in women getting trained in the WSS sector and opening up employment opportunities for them.
 - ii) *Resource persons for career development*: SJPNL shall help develop a *pipeline of women professionals* for WSS and similar male-dominated sectors by sending its female executives once in 2-3 months as resource persons / role models to deliver 'career development' talks and raise awareness amongst female students at various academic institutions about employment in engineering and other technical capacities in WSS utilities.
6. ***The following two indicators will track the key gender related activities under the Program***:
- i) Minimum share of contractual positions occupied by women (%). Baseline: 20%; Target 30%.
 - ii) HR policies reviewed and revised to promote gender equality in the workplace. Baseline: No Gender policy; Target Yes.
7. SJPNL will also aim to realize the following:
- iii) Billing centres and GRM to be managed by 'women only' staff. Baseline: 0%; Target 50%.
 - iv) Number of women enrolled in internship program. Baseline: 0; Target: 5.

³⁷ The gender assessment would be conducted using the Equal Aqua Survey. The survey supports utilities to collect the most recent employment data and assess barriers to employment for women and men along four dimensions: attraction, recruitment, retention, and advancement. The Equal Aqua Platform also offers solutions to addressing barriers along each of the dimensions through concrete actions.

ANNEX 6. SUMMARY FIDUCIARY SYSTEMS ASSESSMENT

Integrated Fiduciary System Assessment

Section 1: Recommendations

1. **Reasonable assurance:** A Fiduciary System Assessment (FSA)³⁸ was carried out for the Program implementing agency, SJPNL. The FSA has been conducted in accordance with the principles governing PforR programs as per World Bank's internal guidelines. The FSA focused on determining whether relevant SJPNL systems provide reasonable assurance that Program funds will be used for the intended purpose and that principles of economy, efficiency, effectiveness, transparency, and accountability will be maintained. Program FM systems have been assessed for the effectiveness of planning, budgeting, funds flow, accounting and financial reporting, internal controls, and auditing. The Program procurement systems have been assessed for effectiveness of the planning, bidding, evaluation, contract award, and contract administration. The FSA has also assessed how Program systems address the risks of Fraud & Corruption and enable redressal of complaints. The FSA was also informed by: (i) Corporate Governance and Financial Accountability (CGFA) Assessment of SJPNL conducted during June - November 2020, and (ii) MAPS assessment of State of HP during 2018-20, conducted by World Bank with assistance of Ministry of Finance GoI, as part of India CPAR.
2. The conclusion of the FSA is that the Program systems are adequate for achievement of the Program objectives. SJPNL functions under robust corporate governance and financial accountability requirements under The Companies Act 2013. SJPNL follows the HP Financial Rules, IPH procurement guidelines, CPWD procurement manual, and its own Delegation of Financial Powers for procurement activities. The FSA has identified certain risks and mitigation measures. The risk mitigation actions have been included in the PAP as appropriate.
3. **Risk assessment:** Considering the risks identified and the short period since incorporation of the Company, fiduciary risk is rated as 'Substantial'. The following are residual risks that will be addressed during Program implementation.
 - (i) **Financial Management:** The key risks to the development outcomes are the non-availability of a Chartered Accountant (CA) heading the Finance function, low frequency of internal audit (presently annual), functionality and implementation gaps in the billing and payments software, and the absence of a nuanced system of costing.
 - (ii) **Procurement:** SJPNL is yet to develop its procurement policy and is reliant on GoHP rules governing procurement. It does not prepare and publish procurement plans; does not have a formal procurement complaints management system; does not disclose procurement information; and there are no debarment provisions and procurement audits. The GeM portal is not used for procurements.
4. Addressing these risks would require strengthening the Board and Senior Management to include finance professionals, plugging gaps in the billing and payments software, updating the Financial Management Manual (FMM) and implementing a system of costing for service delivery. Further, SJPNL needs to develop its own procurement and disclosure policy with necessary debarment provisions and introduce procurement audits and a formal procurement complaints management mechanism. In view of ease of use and faster turnaround for contracting, the SJPNL may consider use of the GeM portal for goods and services.
5. **Procurement Exclusions:** The Program is not expected to procure any large contracts valued at or above Operational Procurement Review Committee (OPRC) thresholds (US\$75 million for works, US\$50 million for goods and non-consulting services, and US\$20 million for consultant services), which are based on a "Substantial" risk rating. This conclusion is drawn based on analysis of procurement data of SJPNL over the last two years. The Program is not expected to include any large value contracts based on the inherent definition of the Program boundaries. SJPNL shall report to the World Bank if any large contract may appear throughout program implementation. In addition, the World Bank team will monitor and identify if any large value contract may appear throughout the Program implementation.

³⁸ The FSA has been conducted remotely in view of the current COVID-19 pandemic.

Section 2: Scope

6. **Scope of the FSA:** SJPNL, incorporated in June 2018, is a jointly promoted company of SMC and the GoHP. It is responsible for water and sewerage services in Shimla City. Being the Implementing Agency for the Program, SJPNL would be the recipient of Program funds. The FSA, therefore, covers the financial management and procurement systems at SJPNL.

Section 3: Review of Public Financial Management Cycle

7. **SJPNL Finances:** SJPNL presented an opening balance sheet as on June 18, 2018 incorporating all assets and liabilities transferred from the SMC and the GoHP. External consultants were engaged for physical verification and valuation of the assets. It produced its first set of audited financial statements for FY 2018-19 covering the period upto 31st March 2019. **Balance Sheet:** At the end of the financial year 2019-20, SJPNL had a fixed asset base of INR 167.51 crores (after depreciation) and receivables of Rs. 32.93 crores. It has a paid-up share capital of Rs. 0.10 crores and Reserves and Surplus of Rs. 178.25 crores linked with the gross value of Fixed Assets transferred. With unutilized grants of Rs. 115.73 crores, its liabilities (and Assets) add up to Rs. 374.08 crores. **Operations:** during the year it generated revenue from water and sewerage charges amounting to INR 26.18 crores. The expenses for the year stood at INR 143.45 crores. The deficit is largely made good by grants from GoHP to the tune of INR 112.55 crores. SJPNL is significantly dependent on the state government for its financial sustenance. State support is provided in the form of subsidy/ revenue deficit grant from the UDD.

8. **SJPNL Procurement:** Based on the activities identified under the Program, main procurable items are performance based works contracts for bulk water supply and transmission, water distribution lines and storage tanks, NRW reduction, extension of sewerage network, rehabilitation and capacity addition of STPs, and SCADA system, M&E System, GRM, global water utility partnership, and capacity building activities. The assessment of SJPNL procurement systems was carried out remotely and revealed that SJPNL is yet to develop its own procurement policy. It follows HP Financial Rules, IPH guidelines, CPWD procurement manual, and its internal delegation of powers for procurements under the Program. GoHP has not legislated procurement-specific law/acts and regulations to provide the legislative/policy framework in the state. Public procurement is governed by HPFR 2009 and detailed instructions and guidelines issued from time to time. Further, GoHP stipulates use of Punjab Public Works Account Code and Central Public Works Account Code for the procedure for execution of works. SJPNL has stipulated use of e-procurement for all procurements estimated at or above INR 5 lakhs and uses rate contracts issued by Controller of Stores (GoHP) and IPH. Although procurement using the GeM portal is progressively on the increase in GoHP, SJPNL has not yet adopted it.

Overview of the FM arrangements in SJPNL

9. **Planning and budgeting:** SJPNL follows a standard template for the annual budget. Budgeting processes including timelines are covered in the FMM. Annual budget is prepared for each of the four cost centres³⁹ separately and clear distinction is made between revenue and capital items. The finance section compiles the budget and places it before the Board of Directors for approval. The approved budget is submitted to the state government for making the relevant provision in the state budget. SJPNL prepares a six-year investment plan on infrastructure⁴⁰.

10. **Procurement planning:** An Annual Works Program determines the procurements to be undertaken. It is prepared by the concerned AGMs and consolidated by Finance Department for budgeting and for administrative approvals. The works to be procured are decided based on priorities and availability of funds. Works spread over multiple years are part of the annual works programs and are budgeted accordingly. However, procurement plans are not prepared, and the annual works programs are not disclosed on the SJPNL website.

³⁹ Bulk water, water distribution, sewerage, and head office.

⁴⁰ The current Investment Plan covers the period 2019-20 to 2024-25

11. **Budget execution:** SJPNL earns revenue from water and sewerage charges. It also receives maintenance grants as well as capital grants from the UDD. SJPNL operates its own bank accounts for funds management. It has implemented a customized software for online billing and collection (for water and sewerage charges) since financial year 2018-19. Close to 35,000 consumers are enrolled on the software. The software though suffers from deficiencies such as non-availability of user manuals and data/user security protocols, inadequate arrangements for software maintenance and so on. Further, there are delays in generating bills from the software and it is not integrated with 'Tally' – an off-the-shelf software used for accounting. Expenditure is incurred by units as per approved budgets. Bills approved by the three AGMs – Distribution, Sewerage, and Bulk Water Supply are sent to the Head Office which makes centralized payments, which are mostly electronic.

12. **Accounting and reporting:** Being a corporate entity, SJPNL accounting setup is aligned to the requirements of the Companies Act, 2013⁴¹. The FMM requires the maintenance of accounts separately for Water Production, Water Distribution, Sewerage, and Head Office. The accounts are maintained on 'Tally', a popular off-the-shelf accounting software. The FMM outlines the accounting policies for major items and discusses in detail the records to be maintained, their periodicity, the chart of accounts structure, and reporting requirements. The Finance Department has devised checklists for verifying contractor and vendor bills – such checklists need to be made part of the FMM. The chart of accounts is designed for cash-based accounting rather than accrual. Aspects like segment reporting and costing of water supplied are also not detailed out in the FMM. The financial statements for 2019-20 were audited by January 2021. The FMM prescribes two quarterly financial reports to be prepared. Additionally, the Finance Department prepares reports on cost recovery, cost per kilo-litre, and energy cost and submits to the MD-and-CEO and the Board.

13. **Procurement processes and procedures:** SJPNL has put in place a fair and transparent procurement process with the objective of achieving best value for money. Open tendering is the preferred mode of procurement with use of e-procurement (tenders above INR 5 lakhs) and conditions and lower thresholds are laid down for limited and direct procurement in specified circumstances. Depending upon the value, 7 to 14 days are provided for submission of bids, and 30 to 51 days are allowed from bid invitation to contract award. Bids are required to be opened publicly. SJPNL uses bid documents of IPH and CPWD. The assessment reviewed procurement performance of SJPNL based on analysis of sample review of 19 contracts with an estimated amount of Rs 340 million [USD 47 million]. This analysis reveals that: (i) all 19 were open tender cases through e-portal; (ii) average bidding time is 18.7 days; (iii) average number of bids received is 3.4; (iv) average length of procurement process is 91.8 days; (v) average time for bid evaluation is 73 days; and (vi) works estimates are based on SOR updated in 2000, and goods estimates are based on past purchases/ market information. SJPNL does not have a formal complaint management and appeals system and an independent appeals body. It depends on complaints received directly or through GoHP GRM Portal. GRM portal is meant for delivery of public services and is not suitable for procurement related complaints. SJPNL does not have a disclosure policy nor debarment provisions and does not have provisions related to application of Bank's debarment, suspension or disqualification lists to PforR Program procurements.

14. **Contract Administration:** HPFR prescribe guidelines for receipt of goods, acceptance, taking them to stock, issuing, and so on. The Rules also cover maintenance of fixed asset register, annual stock verification, and disposal of obsolete and unserviceable goods. CPWD manual also covers contract management. GoHP e-procurement system has a contract management module which is being used by IPH – the same is not being used by SJPNL. Performance based contracts with service delivery being procured by SJPNL are quite complex to administer, and contract management module could be gainfully used by SJPNL.

15. **Internal controls:** The FMM prescribes key internal controls such as protocol for modifying chart of accounts, monthly bank reconciliation, reversal of long pending items, maintenance of fixed asset register, annual physical verification of assets and so on. It prescribes that accounting records shall be software generated and no manual vouchers shall be

⁴¹ Section 128(1), 129(1) and 133 along with Schedule III of the Companies Act, 2013

prepared. SJPNL is in the process of revising and strengthening the FMM to cover several weaknesses including covering processes and accounting in a computerized setup. Internal controls in the area of water and sewerage charges billing and collections need to be strengthened. In the past, bills have not been generated periodically/ regularly. Enrolment of more than 2000 consumers is still under verification (as of November 2020). Since the software is not integrated with 'Tally', accounting entries for collections are manual. There is no procedure in place for reconciling collections reported to Head Office with the data in the billing software.

16. **Internal audit:** SJPNL has instituted a system of internal audit. The FMM prescribes annual internal audit by a CA firm and lays down the terms of reference for the audit. For better effectiveness, it is important that SJPNL move to a system of quarterly internal audit instead of annual. The internal audit report for 2018-19 was not placed before the Board but was reviewed by an internal committee headed by the MD-and-CEO. In order to ensure independence, it is important that the reporting responsibility of the internal audit be assigned to the Audit Committee/ Board. The terms of reference of internal audit need strengthening and may be revised to also include a special review of asset procurement and stock audit, through audit of a sample of contracts.

17. **External / Program audit:** SJPNL is subject to the audit of a firm of Chartered Accountants appointed by the Comptroller and Auditor General (CAG) of India (Section 139 (5) of the Co.'s Act). This audit process is working well, and the entity audit report meets the Bank requirements in terms of quality. To meet the requirements under the Bank loan, the auditors shall supplement the audit report with a certification of the expenditure made on the Program as agreed with the Bank which shall be a subset of the overall activities of SJPNL. The auditor will certify this (Program) 'expenditure schedule' in addition to the overall entity audit of SJPNL. This audit report will be submitted to the Bank within 9 months of close of the financial year i.e. by December 31 each year. The audit for FY 2019-20 was received within 10 months of close of the FY. SJPNL did not have an Audit Committee of the Board till recently; however, this has now been formed as per a resolution dated December 2020. This is a statutory requirement under the Companies Act (Section 177) as well as a requirement in its Articles of Association. The Audit Committee is expected to play a crucial role in ensuring that observations of internal and external auditors are acted upon and the BoD is apprised of critical audit findings.

18. **Public disclosure of information:** SJPNL has put up the FMM as well as the water and sewerage tariff policy on its website. However, key financial information such as annual budget, annual and interim financial statements, financial performance indicators are not disclosed on the website. Doing so would introduce greater transparency of its financials. To enhance transparency of procurement information, it is recommended to: (a) prepare and publish procurement plans; (b) undertake audit of sample of contracts by the company auditors; and (c) adopt a disclosure policy covering procurement information like procurement plans, contract award, contract performance, complaints redressal, audit reports, appeals and their disposal etc.

19. **Procurement and FM capacities:** The role of the FM function in SJPNL extends beyond finance and covers Procurement, Information Technology, and Planning and MIS as well. The Finance function is headed by a Finance Manager. He is supported by an Accountant for each accounting centre hired from the market. Given the extended role played by the FM function, it would help to recruit Chartered Accountants as full-time staff who can support the MD and the Board. SJPNL is staffed with officials mainly from MC/IPH who have experience of handling procurement under GoHP financial rules and other regulations. A qualified and experienced contract manger has been hired for the duration of the Program. The procurement staff strength with contract manger in the MD's office, and AGMs with their SDOs and JEs with long procurement experience is considered adequate for the Program. Procurement and contract management being critical activities, training needs of SJPNL officials particularly on complex DBO contracts, need to be identified and addressed. For every bidding opportunity under the Program, each participating bidder shall submit (as part of the bidding process) a self-declaration that the firm is not subject to ineligibility or has not been sanctioned under the World Bank system of debarment and cross-debarment. Program audit will also review and certify above aspects.



20. **Anti-Corruption Guidelines:** In order to operationalize implementation of the various areas covered in the ACGs, the MD cum CEO office of SJPNL shall maintain and compile a quarterly report of complaints related to the Program and share it with the Bank (based on the agreed format incorporated in the POM); incorporate the Bank's listing of ineligible firms in the filter used by Implementing Agencies when they conduct due diligence. This list is available at the following website: <http://www.worldbank.org/debarr>. incorporate into the filter mentioned above the Bank's suspension list that will be obtained from the WB team by the Program Team periodically. Report on quarterly basis stating that none of the contract awards under the Program are made to any of the ineligible / suspended firm. For every bidding opportunity under the Program, each participating bidder shall submit (as part of the bidding process) a self-declaration that the firm is not subject to ineligibility or has not been sanctioned under the World Bank system of debarment and cross-debarment. Program audit will also review and certify above aspects.

21. Over the last three years SJPNL has not received any Fraud and Corruption related complaint. It is guided by the State Vigilance Anti-Corruption Department and the State Conduct Rules for addressing Fraud and Corruption cases. The key commitments under the PforR ACG that have been agreed by SJPNL and other participating agencies are as follows:

- (i) to take all appropriate measures to ensure that the Program is carried out in accordance with the PforR ACG.
- (ii) to take all appropriate measures to prevent Fraud and Corruption in connection with the Program, including (but not limited to) adopting and implementing appropriate fiduciary and administrative practices and institutional arrangements.
- (iii) to promptly inform the Bank of all credible and material allegations or other indications of Fraud and Corruption in connection with the Program that come to its attention, together with the investigative and other actions that SJPNL or participating agencies propose to take.
- (iv) to take timely and appropriate action to investigate Fraud and Corruption allegations and indications; report to the Bank on the actions taken in any such investigation, at such intervals as may be agreed between the Borrower and the Bank; and, promptly upon the completion of any such investigation, report to the Bank the findings thereof.
- (v) to take timely and appropriate action, satisfactory to the Bank, to remedy or otherwise address the situation and prevent its recurrence if SJPNL and other participating agencies or the Bank determines that that Fraud and Corruption has occurred in connection with the Program.
- (vi) to cooperate fully with representatives of the Bank in any inquiry conducted by the Bank into allegations or other indications of Fraud and Corruption in connection with the Program, and takes all appropriate measures to ensure the full cooperation of relevant persons and entities subject to the SJPNL's or participating agencies' jurisdiction in such inquiry.
- (vii) to ensure that any person or entity debarred or suspended by the Bank is not awarded a contract under or otherwise allowed to participate in the Program during the period of such debarment or suspension.
- (viii) to report to the Bank on actions taken in any investigation into Fraud and Corruption allegation or other indications, agreement as to: (a) the intended periodicity of such reporting; and (b) the format / required contents of the report, as mentioned in section 4 below.

22. SJPNL should have people in procurement and financial departments who (a) take down complaints; (b) monitor complaints; (c) investigate or transfer complaints to State Vigilance Department. Specific details will be included in the Program Operation Manual (POM).

Section 4: Program Systems and Capacity Improvements.

23. The table outlines the main weaknesses identified in the FSA and proposed actions included in the PAP to address the weaknesses.

Risk		Mitigation Action
1.	Absence of qualified professionals heading Finance Function	Create post of Chief Finance Officer (CFO) and nominate/recruit a CA to the post
2.	Weak FMM	FMM to be upgraded to include, amongst other topics, accounting process flows, system of scientific costing, financial MIS
3.	Functional and technical gaps in Billing and Payments software	Undertake a functionality and software audit and address gaps in a time-bound manner
4.	Less frequent internal audit	Institute quarterly internal audit instead of annual audit currently
5.	Procurement Policy	SJPNL to prepare its own procurement policy including debarment provisions
6.	Inadequate complaint management system	Establish a complaint management system for the Program and update the World Bank at periodic intervals.
7.	Transparency	Implement (a) preparation and publication of procurement plans; (b) audit of sample of contracts by the auditors; and (c) disclosure policy covering procurement information like procurement plans, contract award, contract performance, complaints redressal, audit reports, appeals and their disposal etc.
8.	Fraud and Corruption	SJPNL will collate information on F&C allegations / investigations related to the Program and report matters to the Bank.

Section 5: Implementation support

24. The Bank would support SJPNL in implementing the mitigating actions to address the risks identified in the FSA. Progress against PAP actions identified would be on the agenda during the Bank Implementation Support Missions. Interactions between the SJPNL and Bank task teams would be organized to address key knowledge gaps. The Bank Task Team would undertake a review of key activities and documents under the Program such as financial management compliance, procurement progress, contract management, procurement complaints, adherence to Anti-Corruption Guidelines, policy notes, manuals and give its suggestions for improvement. The team would also assess, at each Mission, whether there are any significant changes to the assessed fiduciary risks and/or new risks have emerged and work with SJPNL towards addressing such risks.

ANNEX 7. SUMMARY ENVIRONMENTAL AND SOCIAL SYSTEMS ASSESSMENT

1. **Objectives and scope:** This ESSA examined the following aspects: (i) the potential environmental and social (E&S) effects of the Program including direct, indirect, induced, and cumulative effects, as relevant; (ii) the borrower's capacity - legal framework, regulatory authority, organizational capacity, and performance to manage those effects; (iii) the comparison of the borrower's systems — laws, regulations, standards, procedures, and implementation performance — against the core principles and key planning elements to identify any significant differences that could affect Program performance; (iv) the likelihood that the proposed Program achieves its E&S objectives; and (v) recommendation of measures to address capacity and performance on policy issues and specific operational aspects relevant to managing the Program risks through a Program Action Plan.
2. **Methodology:** This included secondary literature review, screening, consultations – field-level and state-level; analysis and synthesis of E&S systems strengths and areas for improvement. *Community Consultations:* The key informant interviews and focus group discussions were held between August and November 2020. Varied set of stakeholders were consulted to solicit feedback (refer to ESSA report for details on stakeholders consulted).
3. **Key points from state/city level stakeholder workshop:** Held through a virtual forum on December 17, 2020, the following key points emerged: *Environmental:* (i) importance of protecting and augmenting the natural sources of water; (ii) rainwater harvesting and the need to streamline practices within the city; and (iii) need to build resilience in the context of climate change impacts and the long-term sustainability of water resources. *Social:* (i) importance of complying with labor laws and documentation by the contractors, (ii) timings of water supply, (iii) maintaining regular billing cycles, (iv) coordination of stakeholder agencies to effectively address WSS issues; (v) consumer outreach methods, and (vi) collecting public perception and feedback.
4. **Disclosure:** The draft ESSA was widely shared prior to the stakeholder workshop held on December 17, 2020. The feedback obtained during the workshop was used to further refine and finalize the ESSA. The revised/final ESSA report has been disclosed on SJPNL website and the World Bank portal, on March 16, 2021.

Environmental Assessment

5. **Regulatory:** The investments pertaining to water supply pipeline, sewerage pipe network, and other civil works are not governed by regulations/procedures pertaining to environment clearance. However, general environmental standards and practices are applicable. **Institutional:** At the Program level, SJPNL has engaged a full-time Environmental Specialist to coordinate and conduct all environmental activities. The Environmental Specialist will also receive support from the available capacity within the contractor, consultants, and third-party monitoring agencies. Together, they will be able to manage the EHS impacts of SJPNL's activities under the Program. With the expansion of the responsibilities of SJPNL, there is a need to establish and maintain structured and documented procedures to enable effective implementation. These procedures should include aspects related to WSS quality, WSS treatment plants, integrating EHS with bid/contract documents, and engaging in source protection initiatives.
6. **Assessment against the PforR core principles:** The assessment focused on borrower's environmental management systems, natural habitats, and cultural resources. The gaps identified in the assessments are addressed through the ESSA recommendations. The assessment confirmed overall adequacy and consistency with these core principles.

Social Assessment

7. **Regulatory:** There are no procedural requirements related to social issues. The contractors engaged for works are required to comply with labour regulations and these would need to be monitored by SJPNL. Specifically, the investments pertaining to water supply pipeline and sewerage piped network are not governed by regulations. However, routine practices of SJPNL are applicable. **Institutional:** Presently there is no social safeguards staff within SJPNL, and required

duties are undertaken by an E&S specialist. However, with expansion of activities, hiring of a full time Social Safeguards Specialist to attend to compliance, operational as well as capacity enhancement activities is recommended. The SJPNL has a dedicated GRM Cell which has been functioning effectively for over two years. Twelve groups of Jalsakhis are constituted in different wards and engage in educating people regarding water conservation, volumetric billing and the SJPNL's water supply program. Monitoring includes conducting of customer satisfaction surveys with a special focus on such vulnerable groups.

8. **Assessment against the core principles:** The ESSA focused on social management systems, public and worker safety, land acquisition and livelihoods, and the needs and concerns of vulnerable groups. The regulatory systems were assessed and found to be adequate to manage the social effects. Compliance to labor regulations by contractors engaged in construction, including adherence to COVID-19-related protocols is an area that will need to be monitored by SJPNL. On land, GoHP usually identifies land belonging to the government, mainly revenue or wasteland and may require internal transfer using established government procedures. In case of forest land, the FCA clearances need to be obtained. The review of past practices indicated that SJPNL requests the Revenue Department to identify unencumbered land and the department undertakes screening to ascertain that lands selected for construction are free from any encumbrances. No requirement for land acquisition or land transfer from individuals or community is foreseen for the construction activities. The core principle on indigenous people (Core principle 5) is not a focus in urban Shimla, while the program has adequate provisions for vulnerable groups.

Findings

9. **Program Exclusion:** The assessment confirmed the activities do not include those which are not eligible for PforR financing. There are potentially no significant adverse environmental and social impacts likely to arise from activities under the Program. During the implementation, it will be required to ensure that all such activities ineligible for PforR financing remain excluded.

10. **Environmental:** Any improvement of WSS management in Shimla will result in positive environmental impacts. The possible negative environmental impacts include construction-related environmental, health and public safety impacts, which have to be managed under the Program. There are no procedural regulatory requirements (on environment clearance) – either national or state – that are directly applicable to the contractors, who will be responsible for the construction-related impacts. However, the environmental standards and guidelines, particularly on different Worksite and Waste Management, will be relevant and need to be adhered. As the infrastructure activities related to the water distribution pipelines and sewerage network will be within the urban areas, the likelihood of using forest land will be low. However, if such a need arises, the required permissions need to be obtained under the Forest Conservation Rules. The institutional systems within SJPNL will continue to be developed based on SJPNL experience over the last few years. While the proposed environmental staff plans are adequate, substantial focus needs to be given to training and capacity building throughout the project period. While there are EHS issues in the provisions that SJPNL contracts to the construction contractors, these are often not adhered in practice. The contractors tend to be slack on these provisions, and this could result in risks related to public and worker safety. A particular focus on integrating EHS management in contracts and contract administration will be required.

11. **Social:** The GoHP's program and the Bank's Program on WSS will result in positive Social impacts. In general, in WSS sector, the possible negative social impacts, involuntary resettlement impacts in case the works require acquisition of private land, include limitations in equitable access to services, quality and quantity of water available to different consumer sections, short term constructions stage impacts and/or access to structures, disruptions to traffic, water supplies, labor aspects, SEA/SH, community health and safety risks. The ESSA study noted that the robust systems developed under DPL 1 at SJPNL have significantly reduced the likelihood of the above adverse impacts. No private land will be acquired for the present PforR works and therefore R&R and livelihoods impacts are avoided. Provisions are in

place to address the temporary construction stage impacts, which will be further strengthened by the provisions in bids and contracts.

12. The GoI / GoHP's regulatory systems were found to be adequate to manage the Social effects. The regulatory compliances are not triggered by the project and not directly applicable to SJPNL. The system performance was found to be effective. The stakeholders, contractors / departments shall however adhere to the statutory provisions /mandates as per respective applicable Acts. However, contractors tend to be slack on these provisions particularly in the areas of facilities at labour colonies, minimum wages, community safety and statutory compliances regarding engaging labour, all of which could result in risks at varied levels.

13. **Recommendations for institutional strengthening and inputs for the Program Action Plan:** The gaps identified in the assessment are addressed through the proposed institutional strengthening and the PAP that requires SJPNL to undertake specific actions within given timelines. Before program effectiveness, the SJPNL shall appoint a full time Social staff. By the end of Year I, the Program shall: (i) establish and maintain documented environment and social systems and procedures within SJPNL; (ii) review and strengthen all the contract provisions pertaining to EHS and construction stage aspects, including impacts and labor engaged for civil works, particularly pertaining to water supply pipelines and sewerage network; (iii) review and strengthen monitoring and reporting procedures on testing, EHS provisions in civil works, source protection activities, labor welfare and construction stage mitigation measures; (iv) develop training plan and engage in orientation and refresher training on EHS management, management of social aspects, communication strategy and IEC material for SJPNL staff, contractor staff and consultants on an ongoing basis and (v) lastly, streamline half-yearly monitoring and progress reports of ESHS performance of the construction contracts. As part of the Program Action Plan, it is planned to build capacity within SJPNL on (i) environmental systems and procedures with a focus on streamlining the monitoring and supervision aspects and (ii) augmenting processes and strengthening procedures to manage social aspects relating to communities and construction labor (Refer Annex 8).

14. **Recommendations for implementation support:** The Bank should focus largely on further building the environmental management capacity of SJPNL that includes competence building in managing ESHS issues in construction contracts, streamlining internal systems and procedures, and networking with other stakeholder departments on environmental issues should be strengthened. Pertaining to social systems, the Bank's implementation support should focus on strengthening the social staff at SJPNL on priority followed by awareness and competence building, streamlining systems and procedures and networking with other stakeholder departments on social issues. Strengthening the outreach activities through Jalsakhis, exposure visits and training to the GRM executives, Jalsakhis will enhance their overall performance regarding stakeholder/ consumer satisfaction and help SJPNL in its efforts to achieve program objectives.



ANNEX 8. PROGRAM ACTION PLAN

Action Description	Source	DLI#	Responsibility	Timing		Completion Measurement
1. Implementation of a robust Cost Accounting Framework and linking billing system to the financial accounting	Fiduciary Systems		SJPNL	Due Date	30-Jun-2023	A Cost Audit of SJPNL completed and billing/ revenue system fully integrated with financial accounting.
2.Preparation and publication of procurement policy, procurement complaint management system, debarment policy, baseline for KPIs under performance contract, and procurement performance audit.	Fiduciary Systems		SJPNL	Due Date	30-Jun-2022	Procurement policy, disclosure policy, procurement complaint management system and debarment policy prepared and published. Procurement performance audit of SJPNL completed. Baseline for KPIs in procurement contracts developed.
3. Capacity built within SJPNL on environmental systems and procedures with a focus on streamlining the monitoring and supervision aspects.	Environmental and Social Systems		SJPNL	Due Date	30-Jun-2022	Documentation of processes, procedures and monitoring reports.
4. Capacity and processes augmented and procedures strengthened within SJPNL to manage social aspects relating to communities and construction labor.	Environmental and Social Systems		SJPNL	Due Date	30-Jun-2022	Documentation of processes and procedures and monitoring reports.

5. Strengthened M&E System Implemented	Technical	DLI 3	SJPNL	Other	Within six months of effectiveness	M&E system covers WSS sector indicators (SLBs), project specific DLIs and Results Indicators, including safeguards and fiduciary indicators.
6. Annual Report, including Audited Financial Statements and Citizen Report Card, published and disclosed.	Technical		SJPNL	Recurrent	Yearly	Annual performance report comprising overall performance of the company; performance score card; audited financial statements; corporate governance compliance report; and citizen report card.

ANNEX 9. CLIMATE CO-BENEFITS

Vulnerability Context

1. **Climate Projections:** The effects of climate change are likely to become more intense over the next three decades. The monsoon precipitation pattern may increase by 20-25%. The frequency of extreme events, including flooding and extreme precipitation, as well as droughts, may double. Also, there will be snow and glacier field loss, which will affect the flow in river system, resulting in reduced maximum flows in areas of lower elevation. The glacier fields may reduce by more than 50% due to rise in temperature, increased melting rate, etc. The extreme events may further increase the issues of sedimentation, intense erosion, destabilization of slopes and the increase in events of Glacial Lake Outburst Flood (GLOF) etc. This will make the seasonality of glacial melt and the associated river water flows more unreliable, while also bringing increased flood risk and short periods of intense river flows, followed by water shortages. As per PRECIS (regional climate modelling system) simulation, the mean annual temperature of Himachal Pradesh is projected to increase from $0.9\pm0.6^{\circ}\text{C}$ to $2.6\pm0.7^{\circ}\text{C}$ and the annual rainfall is likely to vary between 1268 ± 225.2 and 1604 ± 175.2 mm in 2030s. The projected precipitation is likely to increase by 5% to 13% in 2030s with respect to 1970s and the number of rainy days in this region may increase by 5 to 10 days on an average in the 2030s. The rainy days will increase by more than 15 days in the north-western part of the state. The intensity of rainfall is likely to increase by 1 to 2 mm/day. Another analysis with respect to climate of Shimla reveals that total precipitation and snowfall has a decreasing trend⁴² for all seasons.
2. **Disaster Risk Projections:** The percentage change in the spatial distribution of Soil Moisture Deficit Index (SMDI) between 1970s and 2030s has been used for defining the Drought Index. The weeks when the soil moisture deficit may start drought development (Drought Index value between 0 and -1) as well as the areas which may fall under moderate to extreme drought conditions (Drought Index value between -1 and -4) has been assessed. There is an increase in the drought like situations for those areas of various regions that have either projected decrease in precipitation or have enhanced level of evapo-transpiration in the 2030s. Similarly, the weeks belonging to moderate soil moisture stress, show an increase in severity of drought from baseline to the mid-century scenario. It is very evident from the depiction that the moderate to extreme drought severity is pronounced for the state, where the increase is more than 20% in many areas despite the overall increase in precipitation.
3. **Possible Floods Projections.** Possible floods have been projected using the daily out flow discharge in each sub-basin as generated by the SWAT model, ascertaining the change in magnitude of flood peaks above 99 percentile flow in 1970s and in 2030s. The change in peak discharge equal to or exceeding at 1% frequency in 1970s and 2030s for various regions indicates that the flooding would vary from 10% to over 30% of the existing magnitudes in most of the regions. Due to change in rainfall patterns, with increased variability, some regions, especially southeastern parts may experience less rainfall. Drought like conditions may prevail as per given projections. Also, projected increase in temperature, rainfall, rainfall variations and intensities in the state may lead to accelerated summer flows, leading to situations like floods/flash floods in north-western parts of the state. Health risks are also associated indirectly with extreme events in sub montane, low hills, and sub-humid agro climatic zones of the state.
4. **Impact on Water Resources.** The water yield is the total surface runoff, which is usually a function of precipitation, its distribution, evapo-transpiration (ET) and soil characteristics. As per PRECIS region-specific projections for 2030s, the water yield in Himachal Pradesh, mainly covered by major rivers, is likely to increase by 5% to 20% in most of the areas, with some areas showing an increase of up to 50% with respect to 1970s. The impact of increase in precipitation in this

⁴² [Climate Change Knowledge Portal; Climate Risk Profile: India](#) IHCAP (2016) [Synthesis report: climate vulnerability, hazards and risk: an integrated pilot study in Kullu District, Himachal Pradesh](#). State Centre on Climate Change (Himachal Pradesh). <http://hpccc.gov.in/> Rana, R.S., Bhagat, R.M., Lal V.H. (2012). The impact of climate change on a shift of the apple belt in Himachal Pradesh. <https://www.routledgehandbooks.com/doi/10.4324/9780203153284.ch3> . State Strategy and Action Plan on Climate Change: Himachal Pradesh https://desthp.nic.in/publications/HPSCCAP_A1b.pdf



region is reflected in an almost similar pattern of increase in the ET. Increase in the water yield is more for those areas that have experienced a low increase in ET.

5. **Climate Change Induced Events.** Climate Change induced weather extremes such as unprecedented drought, frequent floods, cloud bursts, erratic and changing pattern of rain and snowfall, higher temperature and milder and late winters have affected the availability of natural resources in general and the water in particular. Over the years, the water availability in all towns of the state has declined and majority of them are facing scarcity situation. The traditional water sources are either on the verge of extinction or have dried. Any change in the behavior of water resources will have adverse impact on the overall economy of the state. According to experts, glaciers in the Himalayas have been reported to be in the retreating phase and in future, this can result in water scarcity for the people living in the mountain region and in downstream area who depend on glaciers and snow as a source of fresh water. Retreating glaciers, depleting snow cover and GLOFs are of immediate concern in the mountain environment as these can have a devastating impact on hydropower, water sources, people, livestock, forests, farms and infrastructure. Decreases in snow accumulation and glacial retreat may lead to acute water shortages in the future.

6. **Intent to Address Identified Vulnerabilities:** The urban population has increased at a rate of 10.04% since 2011 and the number of towns has also increased in the state. This further enhances the pressure on state's water resources. The Program activities are expected to make significant positive contributions to managing the current and anticipated impacts of climate change. More efficient operations and improved service levels will support adaptation, help mitigate and improve resilience of the population in targeted urban areas in the face of expected climate change effects such as increased mean temperatures, droughts, and changes in precipitation. Most directly, the proposed energy efficiency improvement program will contribute to both adaptation and mitigation. This will be achieved through renewable energy development for reduction of emissions by harnessing solar power potential, but also the impact of operational efficiency reforms. More efficient operations will increase the available supply of water and thereby contribute to adaptation. Lowering energy consumption through increased energy efficiency will also lead to a reduction of GHG emissions.

7. **The specific adaptation and mitigation activities under the Program are given in the table below.**

Table 1: Adaptation and Mitigation Activities under the Program

Activities	Adaptation Actions	Mitigation Actions
RA#1: Improved governance, managerial and financial autonomy of SJPNL (\$ 19.2 million)		
SJPNL strengthens its corporate governance practices DLI#1: SJPNL implements performance-based payments to the private water supply operator	Performance-based contracts (DLI#1) will ensure NRW reduction and continuous water supply, even in case of climate induced extreme events such as droughts. These performance-based contracts will improve water use efficiency, while ensuring household connections and tourists get the services. Proper O&M activities will keep the infrastructure running.	Performance-based contracts will use mitigation-related criteria, including energy efficiency measures and NRW reduction. The five-year business plan for SJPNL will focus on operational efficiency (energy efficiency improvement and NRW reduction) targets which will directly reduce GHG emissions. NRW reduction will reduce pumping demand, thus reducing the emissions and contributing to water-use efficiency.
RA#2: Improved efficiency, financial sustainability, and customer accountability (\$ 92.8 million)		

<p>DLI#2: SJPNL improves energy efficiency in water supply by 20%.</p> <p>DLI#3: SJPNL reduces Non-Revenue-Water by 15%.</p> <p>DLI#4: SJPNL indexes tariff annually as per tariff policy.</p> <p>DLI#5: SJPNL achieves at least 175% O&M cost recovery in water distribution.</p> <p>DLI#6: SJPNL receives an annual performance score of at least 3 out of 5</p>	<p>Energy efficiency (DLI #2) is particularly important as it accounts for more than 75 percent of SJPNL's O&M expenses due to the high costs of fuel and electricity, and its implications for greenhouse gas emissions. Non-Revenue water (DLI #3) has implications on both energy efficiency, improving water use efficiency, and improving revenues as water losses in transmission and distribution increase pumping costs and reduce water sales. Therefore, reduction in NRW will achieve water use efficiency, while also ensuring SJPNL is able to invest in maintenance and preventative measures against climate change-related shocks.</p> <p>Annual tariff indexation (DLI #4) and volumetric billing promote cost reflective tariffs which will moderate demand and energy consumption.</p> <p>O&M cost recovery (DLI#5) will help in maintaining infrastructure including preventive measures against climate-related shocks.</p> <p>Customer satisfaction surveys will incentivize strengthening of the M&E system and GRM systems. Improving M&E systems will help the utility track the NRW reduction targets and its performance more accurately, thus enabling greater accountability to the public. Hydraulic modelling and simulation software will incorporate changing temperature and precipitation patterns that are influenced by climate change, thus allowing the utility to take preventive measures.</p> <p>The annual performance score (DLI#6) will provide a general performance incentive covering core aspects of utility performance including (a) Customer Service (30%); (b) Efficiency (20%); (c) Organizational Systems (20%); and (d) Completion of Capital Investment Plan (30%).</p>	<p>Reduction in GHG emissions will take place through use of renewable energy such as solar power, energy efficiency improvements, and NRW reduction. Reduction in physical leakages will reduce the quantum of bulk water needed for the distribution system, thereby reducing energy consumption in the overall water supply chain and reducing overall GHG emissions.</p> <p>Based on current energy consumption levels of approximately 7.69 kWh/m³ for Shimla, the Program target is expected to translate to energy savings of about 1.54 kWh/m³. The associated 20% energy efficiency savings will happen due to NRW reduction, improving pumping efficiency, and improved O&M.</p> <p>Monitoring and reporting NRW reduction and energy efficiency quantitative targets are included in the Results Framework as climate indicators through the M&E system.</p>
RA#3: Improved water supply and sewerage services (\$ 48 million)		
<p>DLI#7: Number of people benefitting from improved WSS services: (7.1) Number of people having access to continuous water supply; (7.2) Number of additional people having access to sewerage services.</p>	<p>Continuous water supply (DLI#7.1) through piped connections and sewerage connections (DLI#7.2) will help provide essential services during climate induced extreme events. Piped water supply, metering, and volumetric tariffs will reduce water wastage, thus ensuring water supply during drought-like situations and floods.</p> <p>Bulk water transmission lines will be designed with climate and disaster resilient principles in mind, including anti-freezing design to avoid bursts. Water storage reservoirs with water quality sensors and automated distribution arrangements will help maintain water supply during disaster and climatic shocks by ensuring a more stable supply to the utility and the end users.</p> <p>Connecting households to the sewerage system will help to ensure that human waste is not emptied directly into the surrounding environment, thus reducing the public health risk of flood water combining with uncollected human waste when flowing through populated areas.</p>	<p>Pumping systems and transmission lines will be energy efficient and NRW reduction will be promoted, thus reducing overall GHG emissions</p>



ANNEX 10. IMPLEMENTATION SUPPORT PLAN

1. The Bank team, comprising WSS Utility experts, will focus on advising SJPNL on the WSS Utility and corporate governance practices, verification of the DLIs, monitoring the compliance with program agreements, progress in achieving PAP actions, and managing potential emerging risks. The mid-term review of the Program would be held no later than May 31, 2024.

Time	Focus	Skills Needed	Resources Estimate	Partner Role
First twelve months	<ul style="list-style-type: none"> • Advice on Urban WSS Utilities and corporate governance good practices. (International and Indian WSS experts). • Support capacity building through workshops on Urban WSS Utility good practices and resilience to Climate Change. • Support implementation of the methodology and protocols for verification of DLIs. • Support strengthening environmental, social, fiduciary and M&E systems. • Review progress in capacity building program. • Monitor compliance of PAP actions. • Report any early risks with supporting mitigation measures. • Support verification /approval of DLIs. 	Highly experienced Urban WSS sector experts, comprising following skills: WSS Utility experience (preferably global), WSS Technical, WSS Institutional, M&E, Procurement, Financial Management, Social, Environment.	US\$ 90, 000	NA
12-48 months	<ul style="list-style-type: none"> • Capacity building workshops on Urban WSS Utility good practices and building resilience to Climate Change. • Review implementation progress in achievement of DLIs and PDO. • Review implementation of PAP actions. • Review progress in programs for training and capacity building. • Support verification /approval of DLIs. • Review compliance with legal covenants. • Support client in conducting the MTR. 	Highly experienced Urban WSS sector experts, comprising following skills: WSS Utility experience (preferably global), WSS Technical, WSS Institutional, M&E, Procurement, Financial Management, Social, Environment.	US\$ 80, 000.	NA
Other				

Skills Needed	Number of Staff Weeks	Number of Trips	Comments
Task Team Leader (Urban WSS)	10	6	Urban WSS Institutions and Utility Experience
Urban WSS Specialist (Utility and Corporate Governance)	4	2	Global Expert
Urban WSS Specialist (Utility, Institutions and Finance)	6	3	Urban WSS Institutions and Finance Experience
Urban WSS Specialist (Technical)	6	3	Urban WSS Technical Experience
Environment Specialist	4	2	Urban WSS Utility and Technical Experience
Social Specialist	4	2	Urban WSS Utility and Institutions Experience
Procurement Specialist	3	2	Urban WSS Utility and Technical Experience
Financial Management	3	2	Urban WSS Utility Experience



ANNEX 11. ACHIEVEMENTS UNDER THE SHIMLA DPL-1

1. The WSS Company (SJPNL) created with full devolved responsibilities for WSS services in Shimla city under the Shimla DPL-1 has achieved significant progress in implementing the first phase of the WSS MTP. An overview of key achievements since January 2019 is given below.

	Before SJPNL was established	Progress by the new SJPNL under DPL-1
Institutional Structure and autonomy for WSS	Fragmented and engineering focused organization with no autonomy or delegation of powers	SJPNL has full responsibility for providing WSS services in Shimla city. SJPNL is incorporated under Companies Act, fully autonomous under its Board of Directors (BOD). The BOD has inducted Independent Directors to represent citizen and environment interests.
Organizational Structure and human resources	Only technical staff from GoHP. No staff for critical support functions like IT, M&E, communications, etc.	SJPNL has a formal organization structure and HR policy. It has transformed into a customer focused organization by hiring 27 staff from the market in communications, human resources, finance, IT, M&E and customer relations.
Corporate Governance and performance focus	No governance arrangement for representing stakeholders. No systems for evaluating WSS performance	SJPNL has complied with the corporate governance requirements, including a performance scorecard on service delivery parameters. SJPNL has achieved a score of 4 / 5 on service delivery parameters as per agreed performance scorecard.
Cost recovery, tariff and subsidy policy	No commercial orientation and reliance on GoHP subsidies. Failed to implement metering and volumetric tariff. Postponed tariff revisions.	<ul style="list-style-type: none"> Improved metering from 20% to 100%. Implemented increasing block volumetric tariffs with annual indexation and completed three billing cycles. Carried out automatic tariff revision as per tariff policy. Improved revenue collection by 126% since 2016-17.
Performance-based service delivery orientation	Infrastructure focus with poor service standards in water quality, bulk water availability and continuity of supply. No performance orientation. No system for review of performance	<p>SJPNL is guided by performance standards, fixed by GoHP.</p> <ul style="list-style-type: none"> Developed water quality and surveillance protocol and GIS mapping of Water Quality Data. Maintains strict adherence to water quality standards. Track record of no jaundice case. Improved water availability by 25% through efficiency improvements. Started implementation of 24x7 water supply in demo zones. Achieved daily water supply as compared to alternate day supply. Increased sewage collection by 200%. Changed procurement procedures to Performance-based Contracts.
Energy efficiency	Poor awareness as energy costs are subsidized by GoHP	<ul style="list-style-type: none"> Replaced aged pumps and leaking pipes for energy efficiency improvements and NRW control. Achieved reduction in energy consumption from 7.69 Kwh/ m3 to 7.24 Kwh/ m3.
Customer orientation and accountability	Departmental style operation with no focus on customer service.	<p>SJPNL has become a customer centric utility:</p> <ul style="list-style-type: none"> Implemented Finance Management System with transparent accounting procedures. Implemented GRM. Developed software for online registering of grievance and monitoring redressal, resolving 92% grievances within 24 hours. Introduced simplified procedures for new water/ sewerage connections. Developed online facility for connection applications, billing and payments. Launched Social Outreach Program and IEC Campaign on water conservation and use, engaging stakeholders and NGOs. Formed Jal Sakhis, a women volunteer group for improving water conservation. Launched biannual customer satisfaction survey and public disclosure. Launched a variety of tools to reach customers: Website, Tollfree number, e-mails, Grievance redressal portal, Walk-in facilities.



Annex 12: Team Members

1. Smita Misra (TTL), Lead Water Supply and Sanitation Specialist SSAW1, Role Team Leader (ADM Responsible)
2. Maximilian Leo Hirn, Senior Economist SSAW1, Role Team Member
3. Tanuj Mathur, Senior Financial Management Specialist, Role Financial Management Specialist (ADM Responsible)
4. Heenaben Yatin Doshi, Senior Procurement Specialist ESARU, Role Procurement Specialist (ADM responsible)
5. Sona Thakur, Senior External Affairs Officer ECRSA, Role Team Member
6. Srinivasa Rao Podipireddy, Senior Water Supply and Sanitation Specialist, SSAW1, Role Team Member
7. Gopalaswamy Srihari, Social Development Specialist, Safeguard Policies, SSAS2, Role Social Specialist (ADM Responsible)
8. Neha Pravash Kumar Mishra, Senior Environmental Specialist SSAEN, Role Environmental Specialist, (ADM Responsible)
9. Victor Ordonez, Senior Finance Officer, WFACS
10. Vidya Venugopal, Counsel, LEGAS
11. Vaideeswaran Sankaran, Consultant SSACD, Role Team Member
12. Ramanujam Rajagopalan, Consultant SSAW1, Institutional Development
13. Nirmala Chopra, Program Assistant, SACIN, Role Team Member

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