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Proposed Loan Urban Water Supply and Sanitation (Sector) Project (Nepal)

1. The Report and Recommendation of the President (RRP: NEP 35173-015) on the proposed loan to Nepal for the Urban Water Supply and Sanitation (Sector) Project is circulated herewith.
2. This Report and Recommendation should be read with *Country Operations Business Plan: Nepal, 2018–2020*, which was circulated to the Board on 27 September 2017 (DOC.IN.372-17).
3. In the absence of any request for discussion and in the absence of a sufficient number of abstentions or oppositions (which should be communicated to The Secretary by the close of business on 26 September 2018), the recommendation in paragraph 32 of the paper will be deemed to have been approved, to be so recorded in the minutes of a subsequent Board meeting. Any notified abstentions or oppositions will also be recorded in the minutes.

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Report and Recommendation of the President to the Board of Directors

Project Number: 35173-015
September 2018

Proposed Loan Nepal: Urban Water Supply and Sanitation (Sector) Project

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Asian Development Bank

CURRENCY EQUIVALENTS

(as of 1 August 2018)

Currency unit	–	Nepalese rupee/s (NRe/NRs)
NRe1.00	=	\$0.009
\$1.00	=	NRs109.900

ABBREVIATIONS

ADB	–	Asian Development Bank
DWSS	–	Department of Water Supply and Sewerage
EARF	–	environmental assessment and review framework
EMP	–	environmental management plan
IEE	–	initial environmental examination
ISSAU	–	Institutional Support and Service Advisory Unit
km	–	kilometer
MOWS	–	Ministry of Water Supply
O&M	–	operation and maintenance
PAM	–	project administration manual
PMO	–	project management office
TDF	–	Town Development Fund
WSS	–	water supply and sanitation
WUA	–	water users' association
WUSC	–	water users' and sanitation committee

NOTE

In this report, “\$” refers to United States dollars.

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PROJECT AT A GLANCE

1. Basic Data		Project Number: 35173-015	
Project Name	Urban Water Supply and Sanitation (Sector) Project	Department /Division	SARD/SAUW
Country	Nepal	Executing Agency	Ministry of Water Supply (formerly Ministry of Water Supply and Sanitation)
Borrower	Nepal		
2. Sector	Subsector(s)	ADB Financing (\$ million)	
Water and other urban infrastructure and services	Urban policy, institutional and capacity development	20.00	
	Urban sanitation	35.00	
	Urban water supply	75.00	
	Total	130.00	
3. Strategic Agenda	Subcomponents	Climate Change Information	
Inclusive economic growth (IEG)	Pillar 2: Access to economic opportunities, including jobs, made more inclusive	Climate Change impact on the Project	Medium
Environmentally sustainable growth (ESG)	Global and regional transboundary environmental concerns	ADB Financing	
	Urban environmental improvement	Adaptation (\$ million)	26.10
4. Drivers of Change	Components	Gender Equity and Mainstreaming	
Governance and capacity development (GCD)	Civil society participation	Gender equity (GEN)	
Knowledge solutions (KNS)	Institutional development		
Partnerships (PAR)	Pilot-testing innovation and learning		
	Civil society organizations		
	Implementation		
5. Poverty and SDG Targeting		Location Impact	
Geographic Targeting	No	Urban	High
Household Targeting	Yes		
SDG Targeting	Yes		
SDG Goals	SDG5, SDG6, SDG13		
6. Risk Categorization:	Low		
7. Safeguard Categorization	Environment: B Involuntary Resettlement: B Indigenous Peoples: B		
8. Financing			
Modality and Sources		Amount (\$ million)	
ADB		130.00	
Sovereign Sector (Concessional Loan): Ordinary capital resources		130.00	
Cofinancing		0.00	
None		0.00	
Counterpart		48.50	
Beneficiaries		9.00	
Government		39.50	
Total		178.50	

I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed loan to Nepal for the Urban Water Supply and Sanitation (Sector) Project.

2. The project will support the Government of Nepal in expanding access to community-managed water supply and sanitation (WSS) in 20 project municipalities by drawing on experiences and lessons from three earlier projects funded by the Asian Development Bank (ADB).¹ The project will finance climate-resilient and inclusive WSS infrastructure in project municipalities and strengthen institutional and community capacity, sustainable service delivery, and project development.²

II. THE PROJECT

A. Rationale

3. **Urbanization.** Since the establishment of 276 urban municipalities in 2015, 58% of Nepal's population of 29 million is urban. Out of 3,900 municipalities, including 58 urban municipalities, the Constitution of Nepal (2015) created 7 provinces and 77 districts with 6 metropolitan and 11 sub-metropolitan cities, and 276 urban and 460 rural municipalities. Rapid urbanization—resulting from migration, reclassification, and natural increase—has widened the urban infrastructure deficit. Unmanaged urban growth and lack of improved WSS have led to environmental degradation, public health risks, increased vulnerability to the impacts of climate change and natural hazards, a rise in urban poverty,³ and hampered economic growth. Since 2000, Nepal has made strong efforts to improve access to WSS. It increased water supply coverage from 73% to 84% and basic sanitation coverage from 30% to 81% between 2000 and 2015.⁴ Yet in 2016, only 34% of water supply was reported to be safe and only 15% met the national water quality standards. More efforts are also needed to achieve improved sanitation: only 34% of urban households have septic tanks and only 15% have sewer connections. Fecal sludge management and sanitation for marginalized groups, especially for women and poor households, remain a challenge.⁵ Overall, municipalities find it difficult to provide adequate, cost-effective services because they lack funds and skilled personnel, and sufficient operation and maintenance (O&M) budgets.

4. **Sector policy and institutional arrangements.** The government targets⁶ for WSS services focus on inclusive development for improved functionality, enhanced service levels, and expanded municipal sanitation, covering all citizens, including poor and vulnerable groups.⁷ The

¹ ADB. [Nepal: Small Towns Water Supply and Sanitation Sector Project](#); [Nepal: Second Small Towns Water Supply and Sanitation Sector Project](#); and ADB. [Nepal: Third Small Towns Water Supply and Sanitation Sector Project](#).

² Project preparation was supported under the ongoing ADB. [Nepal: Third Small Towns Water Supply and Sanitation Sector Project](#).

³ The incidence of urban poverty increased from 9.2% in 2004 to 23.8% in 2015. Government of Nepal, National Planning Commission. 2015. *Approach Paper for the Fourteenth Plan*. Kathmandu.

⁴ Government of Nepal. 2016. *Nepal and the Millennium Development Goals: Final Status Report 2000–2015*. Kathmandu.

⁵ World Health Organization and United Nations Children's Fund. 2017. *Progress on Drinking Water, Sanitation and Hygiene: 2017 Update and SDG Baselines*. Geneva.

⁶ The sector objectives are laid out by the government's National Urban Water Supply and Sanitation Sector Policy, 2009; the Fourteenth Three-Year Plan, 2016; the updated 15-year Development Plan for Water Supply and Sanitation in Small Towns, 2015; and the National Urban Development Strategy, 2017.

government has defined sectoral institutional responsibilities and service delivery mechanisms.⁸ The Ministry of Water Supply (MOWS) is responsible for planning, implementation, and regulation of WSS; its Department of Water Supply and Sewerage (DWSS) supports the provision of WSS facilities in municipalities where large utilities do not exist, and these are operated by water users' and sanitation committees (WUSCs)⁹ or municipalities.

5. Recently, the Local Governance Operation Act, 2017, entrusted municipalities with responsibility for WSS services. While municipalities' capacity for this responsibility is being built, the government and residents have been receptive to a decentralized, participatory, and cost-sharing service provision model through water users' associations (WUAs) and WUSCs. Development support for municipal WSS has been channeled through a combination of (i) government grants through the DWSS, (ii) loans by the Town Development Fund (TDF),¹⁰ and (iii) contributions from municipalities and beneficiaries.¹¹

6. **Past support for water supply and sanitation.** Since 2000, ADB has successfully¹² supported the government in improving WSS services in 70 small towns¹³ through three projects (footnote 1), introducing continuous water supply and providing universal household connections, including subsidized connections and affordable supply for poor and vulnerable households.¹⁴ The project will continue the "small towns" model developed with ADB support involving (i) a demand-driven, cost-sharing approach that strengthens ownership and inclusion of women and marginalized groups; (ii) use of explicit, performance-based subsidies to deliver services to poor and vulnerable groups; (iii) use of a participatory financing mechanism with partial investment cost recovery; (iv) introduction of tariffs that allow to recover O&M and debt service costs; and (v) WUSCs as service operators.¹⁵ The model is considered successful by the government and development partners.¹⁶ ADB also significantly supported urban WSS in water-stressed Kathmandu Valley, which includes tapping additional water from Melamchi River through a 26-kilometer (km) diversion tunnel.¹⁷ Adopting a harmonized approach in assisting Nepal's urban development, ADB is also supporting resilient delivery of urban services and facilities in eight

⁸ Sector Assessment (Summary): Water and Other Urban Infrastructure and Services (accessible from the list of linked documents in Appendix 2).

⁹ The WUSCs, formed under the Nepal Water Resource Act (1992), are the elected executive bodies of WUAs.

¹⁰ The TDF is a government-owned entity established under the Town Development Fund Act, 1997. Loans from the government to WUAs or municipalities are generally onlent by the TDF under a subproject financing agreement. The TDF also supports WUAs in institutional and financial management, including introduction of tariffs.

¹¹ WUAs contribute 30% of civil works costs for water supply subprojects (25% from the TDF loan and 5% from users' upfront cash contribution), and 15% of civil works costs for sanitation subprojects (subsidy from municipalities).

¹² Independent Evaluation Department. 2018. *Draft Impact of Cost-Shared Water Supply Services on Household Welfare in Small Towns*. Manila: ADB.

¹³ Small towns have (i) a population of 5,000–40,000; (ii) an average population density of at least 10 persons per hectare; (iii) jurisdiction of one administrative boundary; and (iv) high growth potential, including proximity to a strategic road network with perennial road access, grid power, and telecommunication infrastructure.

¹⁴ The first project supported 29 small towns (593,000 people) to gain access to improved water supply services and was rated *successful* (Independent Evaluation Department. 2012. *Validation Report. Nepal: Small Towns Water Supply and Sanitation Sector Project*. Manila: ADB). The second project covered 21 small towns (355,396 people) successfully. The third project is being implemented in 20 towns (390,000 people targeted) and is rated *on track*; completion is expected within the original loan closing date of 2021.

¹⁵ ADB. 2017. *Tapping the Unreached. Nepal Small Towns Water Supply and Sanitation Sector Projects*. Manila.

¹⁶ Development Coordination (accessible from the list of linked documents in Appendix 2). The development partners active in municipal infrastructure development have been collaborating closely to ensure synergy and coordination.

¹⁷ ADB. [Nepal: Melamchi Water Supply Project](#); ADB. [Nepal: Kathmandu Valley Water Services Sector Development Program](#); ADB. [Nepal: Kathmandu Valley Water Supply Improvement Project](#); ADB. [Nepal: Kathmandu Valley Wastewater Management Project](#); and ADB. [Additional Financing: Kathmandu Valley Water Supply Improvement Project in Nepal](#).

municipalities of Nepal with infrastructure investments for roads, drains, sanitary landfills, sewage, including urban planning, and institutional strengthening.¹⁸

7. **Value addition.** The project will build on previous ADB interventions in the sector and will strengthen particularly (i) technical robustness, (ii) institutional capacity focusing on project municipalities and WUSCs, (iii) long-term operational sustainability, and (iv) climate-resilient approaches¹⁹ and smart technology application.²⁰ To overcome start-up delays, the project will assist project development by supporting the detailed designs of WSS subprojects for (i) urban areas in Kathmandu Valley not previously covered, and (ii) for newly established provincial capitals and district headquarters. The project is aligned with the government's sector policies, ADB's Urban and Water Operational Plans, ADB's Water for All Policy, and the Sustainable Development Goals 5 (gender equality), 6 (clean water and sanitation), and 13 (climate change).

B. Impact and Outcome

8. The project is aligned with the following impact: quality of life for urban populations, including the poor and marginalized, improved through the provision of sustainable WSS services.²¹ The project will have the following outcome: inclusive and sustainable access to WSS services in project municipalities achieved.²²

C. Outputs

9. **Output 1: WSS infrastructure in project municipalities improved.** The project will support the following: (i) 1,600 km of water supply pipes installed or rehabilitated; (ii) 15 water treatment plants, with an estimated capacity of at least 0.6 million liters per day each, constructed; (iii) 66,000 connections for households to piped water supply, with subsidized connections for 8,000 poor and 2,000 vulnerable households (including 100% poor households headed by women); (iv) 8,000 toilets constructed through output-based aid for poor and vulnerable households; (v) 20 public toilets that are suitable for both genders as well as the disabled constructed, with septic tanks; (vi) two decentralized wastewater treatment plants constructed and operational; (vii) 30 km of stormwater drainage constructed; and (viii) climate and disaster risks factored in design of subprojects, as necessary.²³

10. **Output 2: Institutional and community capacities strengthened.** The project will accomplish the following: (i) water, sanitation, and hygiene plans including priority investments in 20 project municipalities prepared and approved by the municipalities; (ii) 20 WUAs registered and 20 WUSCs formed with at least 33% women members and at least one woman in a key post; (iii) business plans and tariff guidelines prepared for project WUAs and municipalities with support from the TDF and the Institutional Support and Service Advisory Unit (ISSAU) of DWSS; (iv) at least 15 climate-resilient WSS subprojects for future investments prepared; (v) at least 200 staff (at least 66 of them women) of the DWSS, TDF, project WUAs, and project municipalities report

¹⁸ ADB. [Nepal: Regional Urban Development Project](#).

¹⁹ Systematic climate-resilient approaches are key to (i) securing equitable water distribution; (ii) using scarce water sources more judiciously; and (iii) ensuring that key assets are resilient to climate risks, e.g., flooding, heat waves, droughts, cyclones, and natural hazards such as landslides and earthquakes.

²⁰ For efficient operation, the project will introduce appropriate technology such as (i) supervisory control and data acquisition systems; (ii) smart metering; and (iii) smart billing, tariff collection, and management systems.

²¹ Government of Nepal. 2009. *Urban Water Supply and Sanitation Policy*. Kathmandu.

²² The design and monitoring framework is in Appendix 1.

²³ Contribution to ADB Results Framework (accessible from the list of linked documents in Appendix 2).

stronger technical knowledge of smart utility management and leadership; and (vi) at least 100,000 people (at least 50% of them women) covered by awareness campaign on water conservation practices and sustainable hygiene behavior, and 80% report greater awareness.

11. The project meets the requirements of the proposed sector lending modality because (i) it has a large number of subprojects; (ii) the government has a sector development plan to meet the priority development needs of the sector, and the institutional capacity to implement the plan; and (iii) the policies applicable to the sector are appropriate and will be improved, if warranted. The project will support the government in implementing key sector reforms.²⁴

D. Summary Cost Estimates and Financing Plan

12. The project is estimated to cost \$178.5 million (Table 1). Detailed cost estimates by expenditure category and by financier are in the project administration manual (PAM).²⁵ The loan from ADB will finance the expenditures related to works, equipment, consulting services and capacity building, incremental recurrent costs, contingencies, and financing charges during implementation.

Table 1: Summary Cost Estimates
(\$ million)

Item	Amount ^a
A. Base Cost^b	
1. Water supply and sanitation infrastructure in project municipalities improved	147.5
2. Institutional and community capacities strengthened	3.0
Subtotal (A)	150.5
B. Contingencies^c	20.4
C. Financial Charges During Implementation^d	7.6
Total (A+B+C)	178.5

^a In mid-2018 prices (as of May 2018), using an exchange rate of \$1 = NRs103.0.

^b Includes taxes and duties of \$15.7 million to be financed from government resources by cash contribution.

^c Physical contingencies are computed at 7.5% for civil works and equipment. Price contingencies are computed at 1.5%–1.6% on foreign exchange costs and 6.5% on local currency costs; includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

^d Annual interest during construction has been computed at 1.0% for the Asian Development Bank loan and at 0.5% for the government's on-lending.

Source: Asian Development Bank estimates.

13. The government has requested a concessional loan of \$130.0 million from ADB's ordinary capital resources to help finance the project. The loan will have a 32-year term, including a grace period of 8 years; an interest rate of 1.0% per year during the grace period and 1.5% per year thereafter; and such other terms and conditions set forth in the draft loan and project agreements.

14. The government and beneficiaries will provide \$48.5 million to cover project investment costs to finance (i) taxes and duties, (ii) part of works, (iii) part of incremental recurrent costs, and (iv) part of contingencies. The government will provide the ADB loan proceeds and counterpart funds to the DWSS as the implementing agency of the project and has assured that it will cover any shortfall in the finance required to meet the agreed outputs. The summary financing plan is in Table 2.

²⁴ All subprojects will be selected in compliance with the selection criteria set out in the project administration manual (footnote 25). Due diligence was conducted on candidate subprojects (Charikot WSS; Charikot Decentralized Wastewater Treatment, Ilam WSS, Siddhanath Baijanath WSS, and Katahariya Strom Drain) and financial analysis was done on three sample subprojects. All subprojects will be subject to ADB concurrence prior to implementation.

²⁵ Project Administration Manual (accessible from the list of linked documents in Appendix 2).

Table 2: Summary Financing Plan

Source	Amount (\$ million)	Share of Total (%)
Asian Development Bank		
Ordinary capital resources (concessional loan)	130.0	72.8
Government of Nepal	39.5	22.2
Beneficiaries (municipalities and water users' associations)	9.0	5.0
Total	178.5	100.0

Source: Asian Development Bank estimates.

15. Climate adaptation is estimated to cost \$33.9 million. ADB will finance 77% of adaptation costs. Details are in the PAM (footnote 25).

E. Implementation Arrangements

16. The project management office (PMO) established in the DWSS for earlier projects will be responsible for overall project coordination, implementation, and monitoring. PMO will recruit four consulting firms: one to support project management and quality assurance, and three for design, supervision, and management targeting specific geographical regions. Recruitment will be through quality- and cost-based (90:10) selection to ensure engagement of highly qualified consultants. Individual consultants will be engaged to support the TDF and the DWSS. Procurement (including consulting services) will follow ADB's Procurement Policy (2017, as amended from time to time) and Procurement Regulations for ADB Borrowers (2017, as amended from time to time).²⁶

17. The implementation arrangements are summarized in Table 3 and described in detail in the PAM.

Table 3: Implementation Arrangements

Table 3: Implementation Arrangements			
Aspects	Arrangements		
Implementation period	September 2018–October 2023		
Estimated completion date	31 October 2023		
Estimated loan closing date	30 April 2024		
Management			
(i) Oversight body	Project Coordination Committee—chair: secretary, MOWS; members: joint secretaries of MOWS, Ministry of Forest and Environment, National Planning Commission, MOFAGA; representatives from MOF; Ministry of Law, Justice, and Parliamentary Affairs; directors general of DUDBC, DWSS; executive director, TDF; president, FWSU; and project director (member secretary)		
(ii) Executing agency	MOWS		
(iii) Implementing agency	DWSS ^a		
(iv) Implementation units	Project management office with two regional project management offices ^b		
Procurement	OCB (international advertisement)	11 contracts	\$75.4 million
	OCB (national advertisement)	15 contracts	\$49.1 million
	Request for quotations	40 contracts	\$1.75 million
	Community participation	5 contracts	\$0.05 million
	Quality- and cost-based selection	1,725 person-months	\$9.62 million
	Individual consultant selection	276 person-months	\$0.9 million
Retroactive financing and/or advance contracting	Advance contracting will apply for procurement of civil works and recruitment of consultants. Retroactive financing will apply to up to 20% of the loan amount for these contracts and the establishment and operation of project management and implementation units incurred before effectiveness of the loan agreement, but not earlier than 12 months before signing of the loan agreement.		
Disbursement	The loan proceeds will be disbursed following ADB's <i>Loan Disbursement Handbook</i> (2017, as amended from time to time) and detailed arrangements agreed between the government and ADB.		

²⁶ Project Procurement Risk Assessment Report (accessible from the list of linked documents in Appendix 2).

ADB = Asian Development Bank, DUBDC = Department of Urban Development and Building Construction, DWSS = Department of Water Supply and Sewerage, FWSU = Federation of Water and Sanitation Users, MOF = Ministry of Finance, MOFAGA = Ministry of Federal Affairs and General Administration, MOWS = Ministry of Water Supply, OCB = open competitive bidding, TDF = Town Development Fund.

^a The TDF will (i) conduct a financial appraisal of the subprojects, (ii) sign subproject financing agreements with water users' associations (WUAs) and municipalities, (iii) onlend the loan portion to WUAs or municipalities, (iv) monitor tariffs, (v) train WUAs in financial management, and (vi) collect repayments.

^b The project management office (PMO) will act as regional PMO for the central region; the eastern and western regions will each have one regional PMO.

Source: Asian Development Bank.

III. DUE DILIGENCE

A. Technical

18. Due diligence of candidate subprojects (footnote 24) confirmed their technical viability, with due consideration of local conditions and capacity for implementation and O&M. It also incorporated adequate measures based on lessons from previous projects, such as (i) obtaining better quality assurance and control measures for subproject designs by engaging dedicated project management and quality assurance consultants for the entire project period, (ii) ensuring that subproject designs incur combined capital and O&M expenditures at least-cost, and (iii) updating existing DWSS design guidelines to factor in climate and disaster risks. Institutional and financial improvements include (i) consulting service inputs for TDF and ISSAU to provide technical, utility management, and corporatization support to WUAs²⁷ and project municipalities; (ii) adoption of tariff guidelines and management agreements between WUAs or project municipalities and the DWSS with clear definition of roles and responsibilities; (iii) a subsidy mechanism to ensure coverage of the poor;²⁸ and (iv) adequate capacity and resources for future subproject preparation. To improve sustainability, the project will support 1 year of O&M in all works contracts including on the job training for WUSC technical staff. Subprojects are driven by demand from WUAs and project municipalities, and selected along transparent criteria, including population growth, poverty index, existing WSS infrastructure, community willingness for cost sharing, and long-term O&M contract.²⁹

19. **Climate change resilience and adaptation measures.** The project is categorized as *medium* for climate change impact and a climate risk and vulnerability analysis was conducted. The DWSS design guidelines incorporate a separate section on climate change containing assessment and adaptation procedures for reducing the impact of climate change on physical investments and building project municipalities' resilience. Subproject designs incorporate specific measures such as (i) groundwater source from deeper aquifers where yields are not affected by changes in precipitation, (ii) pipes to be laid below ground to avoid damage during floods, (iii) source protection, (iv) no construction in floodplains and landslide-prone areas, (v) additional free-board allowance to design parameters, (vi) power backup generators to ensure operation, and (vii) adoption of water conservation and awareness-raising measures.³⁰

²⁷ The ISSAU will assist WUAs in their corporatization, either as a water board under the Water Supply Management Board Act, 2006, or as a company under the Companies Act, 2006.

²⁸ The project will cover all poor and vulnerable households (including 100% poor households headed by women) by providing a 100% upfront cash contribution subsidy for water supply and a 90% subsidy for toilets through output-based aid, e.g., reimbursing the contractors upon completion of the toilet facilities.

²⁹ Detailed subproject selection criteria and the list of pre-selected project municipalities are in the PAM (footnote 25). Selection of future investments to be designed under the project will follow the same criteria, with preference for investments located in Kathmandu Valley, provincial headquarters, and strategic border municipalities. Subproject procurement can only start once the DWSS and a municipality sign a management agreement with the local WUSC for 20 years of O&M service. The municipality will own the system and the WUSC will operate it.

³⁰ Climate Change Assessment (accessible from the list of linked documents in Appendix 2).

B. Economic and Financial

20. **Economic analysis.** The economic rationale for the government's intervention is sound since the project aims to provide more sustainable urban WSS services. The economic internal rates of return of three sample WSS subprojects range from 12.3% to 16.4%, higher than the economic opportunity cost of capital of 9.0%, indicating significant economic returns. Most of the sample subprojects have also yielded satisfactory results when subjected to a sensitivity analysis using the following downside risks: (i) a capital cost overrun of 20%, (ii) an overrun in operation and management costs of 20%, (iii) a decline in estimated benefits of 20%, (iv) a 1-year implementation delay, and (v) all of the above downside risks combined. The project will increase its economic viability even further if unquantifiable benefits such as environmental improvements are included in the analysis.³¹

21. **Financial analysis.** The financial analysis was conducted on three sample WSS subprojects by estimating cash flows over the project life to ensure that the subprojects will generate sufficient revenues to cover incremental recurrent costs, including full O&M and debt service costs.³² A government grant is funding 70% of civil works costs for the water supply subprojects, and 85% of civil costs for sanitation subprojects and all other costs, such as equipment and consulting services. Revenue streams are not intended for full cost recovery, but to recover incremental recurrent costs. An incremental recurrent cost recovery analysis revealed that all sample subprojects would generate sufficient revenues from water tariffs to fully recover incremental recurrent costs through periodic tariff revisions. The PMO and TDF will provide capacity building and hand-holding support to WUSCs on tariff fixation, revenue mobilization, awareness campaigns, and consultations on the project to improve the financial efficiency and sustainability of WSS services.³³

C. Governance

22. A financial management assessment showed that the DWSS and TDF could conduct financial management of the project adequately. The two entities have sufficient experience handling ADB-funded projects. They are also implementing the ongoing ADB-funded Third Small Towns Water Supply and Sanitation Sector Project satisfactorily in terms of timely receipt of project funds, including counterpart funds; efficient project management with adequate staff; and prompt disbursement of funds to contractors and consultants. The procurement assessment concluded that the overall procurement risk for the project is *moderate*.³⁴ The overall risk assessment for the project is *moderate*. Risk mitigation measures include (i) securing commitment of the government and the DWSS to ensure timely establishment of WUSCs with qualified staff, (ii) extending full training and skills development support to boost the PMO's financial management capacity, and (iii) appointing or recruiting qualified staff to fill the vacant positions in the finance section of the TDF. Close monitoring and the resolution of these capacity gaps will be implemented with the support of the loan consultants.³⁵

23. ADB's Anticorruption Policy (1998, as amended to date) was explained to and discussed with the government, MOWS, DWSS, and TDF. The specific policy requirements and supplementary measures are described in the PAM.

³¹ Economic Analysis (accessible from the list of linked documents in Appendix 2).

³² Debt service costs include 25% share of civil works costs for water supply components to be covered by a TDF loan.

³³ Financial Analysis (accessible from the list of linked documents in Appendix 2).

³⁴ Project Procurement Risk Assessment Report (accessible from the list of linked documents in Appendix 2).

³⁵ Financial Management Assessment (accessible from the list of linked documents in Appendix 2).

D. Poverty, Social, and Gender

24. The project, classified as *gender equity theme*, has approaches and implementation interventions directly focusing on gender and social inclusion by providing sustainable water supply and improved sanitation services in project municipalities.³⁶ Inclusion and coverage of all poor and vulnerable³⁷ households in a subproject coverage area is ensured through subsidized connections to piped water supply and output-based aid for sanitation infrastructure. The improvement in WSS infrastructure—individual water connections and toilets—will benefit women, in particular, by decreasing the average time per day spent on collecting and managing water. The framework for inclusion in the PAM outlines the provision of WSS services for poor and vulnerable households, including full subsidy for water supply connections and up to 90% subsidy for individual toilets through output-based aid to ensure affordability and access to better service. A lifeline tariff subsidy for water supply supports continuous affordability of water user charges by poor and vulnerable households. The project benefits the poor, women, and vulnerable people by ensuring their participation in project-related consultations, training units, work generation, and awareness campaigns. Women's empowerment is targeted through their participation in decision-making. The WUSCs are required to have women (at least 33%) and representatives of marginalized ethnic groups among their members, and for a woman to occupy at least one of the key posts (chair, vice chair, or treasurer). A gender equality and social inclusion action plan³⁸ ensures that activities to mainstream gender equality and social inclusion are implemented and monitored at regular intervals. Data, disaggregated by sex, ethnicity, and social and economic background, will be collected. Resources are allocated for the implementation and monitoring of the action plan.

E. Safeguards

25. In compliance with ADB's Safeguard Policy Statement (2009), the project's safeguard categories are as follows.³⁹

26. **Environment (category B).** The PMO prepared an environmental assessment review framework (EARF) in accordance with ADB's Safeguard Policy Statement and applicable government environmental regulation to provide guidance on subproject selection, screening and categorization, information disclosure and consultation, assessment, planning, institutional arrangement, and processes to be followed during project implementation. Five sample subprojects were appraised, and initial environmental examination (IEE) reports were prepared in line with ADB's Safeguard Policy Statement and the EARF.⁴⁰ The IEEs also include an environmental compliance audit of existing facilities that will be rehabilitated or expanded under the project.⁴¹ The sample IEEs and information on project municipalities indicate that there are no ecologically sensitive areas, planned infrastructure will only require small footprints, and the

³⁶ Summary Poverty Reduction and Social Strategy (accessible from the list of linked documents in Appendix 2).

³⁷ Vulnerable people are defined as those suffering the effects of marginalization within or outside their community because of their ethnicity, gender, caste, religion, disability, health, education, or socioeconomic status. For the purpose of this project, this specifically includes Dalit, disabled, disaster-affected, marginalized, and endangered indigenous groups that are politically, socially, or economically excluded.

³⁸ Gender Equality and Social Inclusion Action Plan (accessible from the list of linked documents in Appendix 2).

³⁹ ADB. Safeguard Categories. <https://www.adb.org/site/safeguards/safeguard-categories>.

⁴⁰ Environmental Assessment Review Framework and Initial environmental examinations (accessible from the list of linked documents in Appendix 2).

⁴¹ Environmental audit of water treatment plants to be rehabilitated show compliance with government regulations and requirements. Currently, treated water quality meets both Nepal and World Health Organization guideline values. Raw water quality is good, and water treatment plants do not generate considerable amounts of sludge.

potential impacts are site-specific—few if any of them are irreversible⁴² and can in most cases be readily mitigated and minimized by applying proven mitigation measures and environmentally sound engineering and construction practices consistent with international good practices. Stakeholders were involved through meaningful consultations and views expressed were fed into IEEs and subprojects. The consultation process will be continued during project implementation to ensure that stakeholders are fully engaged. The environmental management plans (EMPs) will form part of the bid and contract documents. The IEEs were prepared with site-specific EMPs and monitoring program, and submitted to ADB, and no works will start until final IEEs are reviewed and approved by ADB. The EARF and IEEs were disclosed on ADB and project websites, and to affected people. A grievance redress mechanism is included in the PAM. Adequate consulting support is included in the project to ensure satisfactory environmental compliance. The PMO will report to ADB on EMP implementation twice a year.

27. **Involuntary resettlement (category B).** To guide subproject preparation, the PMO prepared a resettlement framework in line with ADB's Safeguard Policy Statement and the Government of Nepal's policies, and a sample resettlement plan and four sample due diligence reports.⁴³ Private land acquisition for sample subprojects is not needed. The resettlement plan, prepared for a sample WSS subproject, assesses the impact on common property resources and provides suitable mitigation measures. The DWSS has some experience in implementing and monitoring category B subprojects for involuntary resettlement safeguards under ADB-funded projects. The grievance redress mechanism will address issues and grievances in a timely and effective manner. The PMO will submit semiannual social safeguard monitoring reports to ADB and will be supported by loan consultants in monitoring compliance with safeguards. No subprojects rated category A for involuntary resettlement will be included.

28. **Indigenous peoples (category B).** To guide subproject preparation, the PMO prepared an indigenous peoples planning framework in line with ADB's Safeguard Policy Statement and the Government of Nepal's policies. Field visits confirmed the presence of indigenous peoples' groups in one of the sample municipalities, who will be included in project benefits. Indigenous peoples' groups who are traditional users of surface water sources proposed for a municipal water supply system are also identified, and a sample indigenous peoples plan was prepared.⁴⁴ Previous ADB projects implemented by the DWSS were category C for indigenous peoples' safeguards. Capacity building of PMO staff as well as training of municipal officials and WUAs on indigenous peoples' safeguards, and refresher training sessions on involuntary resettlement will be required. Regional PMOs, municipalities, and WUAs will need capacity support from the social safeguards consultant to assist in the implementation of resettlement and indigenous peoples plans. No subprojects rated category A for indigenous peoples will be included.

F. Summary of Risk Assessment and Risk Management Plan

29. Significant risks and mitigating measures are summarized in Table 4.⁴⁵

⁴² Potential impacts during construction arise from excavations and include (i) health and safety hazards to workers, (ii) noise and dust, (iii) increased road traffic, and (iv) soil erosion and silt runoff from stockpiled materials and wastes. During operation, facilities may generate noise and odor from sanitation, sewage treatment, and discharges to the environment. The IEEs set performance standards on key environmental parameters like noise, odor, and discharge in line with international good practice (as set out in World Bank–International Finance Corporation Environmental, Health and Safety guidelines) and the Government of Nepal's requirements.

⁴³ Resettlement Framework, Resettlement Plan, and Due Diligence Reports (accessible from the list of linked documents in Appendix 2).

⁴⁴ Indigenous Peoples Planning Framework and Indigenous Peoples Plan (accessible from the list of linked documents in Appendix 2).

⁴⁵ Risk Assessment and Risk Management Plan (accessible from the list of linked documents in Appendix 2).

Table 4: Summary of Risks and Mitigating Measures

Risks	Mitigation Measures
Changes in government structures may jeopardize the institutional arrangements and project implementation.	Implementation and fund-flow structures that were successfully established in earlier projects funded by the Asian Development Bank will remain in place. Roles of stakeholders are clearly defined, and formation of water users' associations and WUSCs will ensure consensus among key stakeholders.
Climate change and extreme events will undermine the smooth operation of facilities.	Design standards will include assessment of climate and disaster risks. Project management and quality assurance consultants will ensure that appropriate design features are incorporated in subproject design.
WUSCs may fail to sustain capacity to operate and maintain investments and effectively provide services.	The project will (i) provide 1-year operation and maintenance support through contractors, and staff training for the first 6 months before operations takeover; and (ii) support business plan preparation and establishment of necessary utility management tools for computerized billing, accounting, and auditing.
WUSCs may not increase tariffs to sustain the systems.	Tariff guidelines will be prepared. The Department of Water Supply and Sewerage will monitor the performance of WUSCs as per existing tariff guideline indicators.

WUSC = water users' and sanitation committee.

Source: Asian Development Bank.

IV. ASSURANCES AND CONDITIONS

30. The government, MOWS, and the TDF have assured ADB that implementation of the project shall conform to all applicable ADB policies, including those concerning anticorruption measures, safeguards, gender, procurement, consulting services, and disbursement as described in detail in the PAM and loan documents. The government, MOWS, and the TDF have agreed with ADB on certain covenants for the project, which are set forth in the draft loan agreement and project agreement.

31. No withdrawals shall be made with respect to certain civil works until (i) a subsidiary loan agreement has been duly signed and delivered; (ii) a subproject financing agreement has been finalized in a form and substance satisfactory to ADB; and (iii) certain conditions for a subproject have been satisfied, as set forth in the loan agreement.

V. RECOMMENDATION

32. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve the loan of \$130,000,000 to Nepal for the Urban Water Supply and Sanitation (Sector) Project, from ADB's ordinary capital resources, in concessional terms, with an interest charge at the rate of 1.0% per year during the grace period and 1.5% per year thereafter; for a term of 32 years, including a grace period of 8 years; and such other terms and conditions as are substantially in accordance with those set forth in the draft loan and project agreements presented to the Board.

Takehiko Nakao
President

3 September 2018

DESIGN AND MONITORING FRAMEWORK

Impact the Project is Aligned with Quality of life for urban populations, including the poor and marginalized, improved through the provision of sustainable WSS services (Urban Water Supply and Sanitation Policy) ^a			
Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting Mechanisms	Risks
Outcome Inclusive and sustainable access to WSS services in project municipalities achieved	By 2024: a. 320,000 people (including all poor and vulnerable) ^b in project municipalities have access to 24/7 piped water supply at 100 liters per capita per day, meeting the national drinking water quality standards (2018 baseline: 0) b. 64,000 people (including all poor and vulnerable) in project municipalities have access to improved sanitation facilities (2018 baseline: 0) c. WSS facilities operate at full capacity as designed (2018 baseline: none exist) d. Operation and maintenance cost fully recovered from water tariff (2018 baseline: none exist) e. Average time per day spent by women on water collection reduced to zero in project coverage areas (2018 baseline: to be established) ^c	For all indicators: National census, and annual and quarterly progress reports by PMO and WUAs Periodic project surveys (including baseline and end-line surveys) Annual TDF reports	Climate change and extreme events will undermine the smooth operation of facilities
Outputs 1. WSS infrastructure in project municipalities improved	In project towns by 2023: 1a. Water supply infrastructure established or rehabilitated in 20 project municipalities: (i) 1,600 kilometers of water supply pipes installed or rehabilitated (2018 baseline: 0) (ii) 15 water treatment plants, with an estimated capacity of at least 0.6 million liters per day each, constructed (2018 baseline: 0) (iii) 66,000 connections for households to piped water supply, with subsidized connections for 8,000 poor and 2,000 vulnerable households (including 100% poor households headed by women) (2018 baseline: 0) (iv) Climate and disaster risks ^d factored in design of subprojects, as necessary (2018 baseline: not applicable) 1b. Sanitation infrastructure improved in 20 project municipalities: (i) 8,000 toilets constructed through output-based aid for poor and vulnerable households (2018 baseline: 0)	For all indicators: Annual and quarterly project progress reports by PMO and WUAs Periodic reports by the Ministry of Water Supply	Changes in government structures may jeopardize the institutional arrangements and project implementation

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting Mechanisms	Risks
2. Institutional and community capacities strengthened	<p>(ii) 20 public toilets that are suitable for both genders as well as the disabled constructed, with septic tanks (2018 baseline: 0)</p> <p>(iii) Two decentralized wastewater treatment plants constructed and operational (2018 baseline: 0)</p> <p>(iv) 30 kilometers of stormwater drainage constructed (2018 baseline: 0)</p> <p>(v) Climate and disaster risks^d factored in design of subprojects, as necessary (2018 baseline: not applicable)</p> <p>By 2023:</p> <p>2a. WASH plans, including priority investments for 20 project municipalities, prepared and approved by the respective municipality (2018 baseline: 0)</p> <p>2b. 20 WUAs registered and 20 WUSCs formed with at least 33% women members and at least one woman in a key post (2018 baseline: 0)</p> <p>2c. Business plans and tariff guidelines prepared for project WUAs and municipalities, assisted by the Institutional Support and Service Advisory Unit and TDF (2018 baseline: 0)</p> <p>2d. At least 15 climate-resilient subprojects for future investments prepared (2018 baseline: 0)</p> <p>2e. At least 200 staff (66 of them women) of DWSS, TDF, project WUAs, and project municipalities reported stronger technical knowledge of smart utility management and leadership (2018 baseline: to be established)^c</p> <p>2f. At least 100,000 people (at least 50% women) covered by awareness campaign on water conservation practices and sustainable hygiene behavior, and 80% reported greater awareness (2018 baseline: not applicable)</p>	<p>For all indicators: Quarterly project progress reports by PMO</p> <p>Annual TDF reports</p> <p>Sample project surveys</p>	
Key Activities with Milestones 1. WSS infrastructure in project municipalities improved 1.1 Finalize detailed engineering designs and issue bid documents for eight subprojects (Q2 2018) 1.2 Conduct technical and socioeconomic surveys for all subprojects (Q1 2019) 1.3 Finalize detailed engineering designs and issue bid documents for all other subprojects (Q4 2019) 1.4 Award all civil work contracts (Q2 2020)			

Key Activities with Milestones
1.5 Complete construction (Q2 2022)
2. Institutional and community capacities strengthened
2.1 Review and update WUAs' by-laws (Q2 2019)
2.2 Approve WASH plans in all project municipalities (Q4 2019)
2.3 Develop and adopt business plans and tariff guidelines for all WUAs (Q1 2020)
2.4 Identify future investment subprojects and finalize detailed engineering designs (Q3 2022)
2.5 Complete all training activities for project-related staff (including women staff) in the DWSS, TDF, project WUSCs, and project municipalities (Q2 2023)
Project Management Activities
Recruit all consultants under the project
Ensure that the PMO has sufficient staff with complementary skills
Establish and implement a project performance management system
Inputs
Asian Development Bank: \$130.0 million (loan)
Government of Nepal: \$39.5 million
Beneficiaries: \$9.0 million
Assumptions for Partner Financing
Not applicable

DWSS = Department of Water Supply and Sewerage; PMO = project management office; Q = quarter; TDF = Town Development Fund; WASH = water, sanitation, and hygiene; WSS = water supply and sanitation; WUA = water users' association; WUSC = water users' and sanitation committee.

^a Government of Nepal. 2009. *Urban Water Supply and Sanitation Policy*. Kathmandu.

^b Vulnerable people are defined as those suffering the effects of marginalization within or outside their community because of their ethnicity, gender, caste, religion, disability, health, education, or socioeconomic status. For the project, this specifically includes Dalit, disabled, disaster-affected, marginalized, and endangered indigenous groups that are politically, socially, or economically excluded.

^c Expected to be determined by the end of the first year of project implementation.

^d Climate and disaster risks include seismic events.

Source: Asian Development Bank.

LIST OF LINKED DOCUMENTS

<http://www.adb.org/Documents/RRPs/?id=35173-015-3>

1. Loan Agreement
2. Project Agreement
3. Sector Assessment (Summary): Water and Other Urban Infrastructure and Services
4. Project Administration Manual
5. Contribution to the ADB Results Framework
6. Development Coordination
7. Financial Analysis
8. Economic Analysis
9. Country Economic Indicators
10. Summary Poverty Reduction and Social Strategy
11. Risk Assessment and Risk Management Plan
12. Climate Change Assessment
13. Gender Equality and Social Inclusion Action Plan
14. Initial Environmental Examination: Charikot (Dolakha) Water Supply and Sanitation Subproject
15. Initial Environmental Examination: Ilam Water Supply and Sanitation Subproject
16. Initial Environmental Examination: Siddhanath Baijanath Water Supply and Sanitation Subproject
17. Initial Environmental Examination: Charikot Sanitation Subproject Sewer Network and Decentralized Wastewater Treatment
18. Initial Environmental Examination: Katahariya Stormwater Drainage Subproject
19. Environmental Assessment and Review Framework
20. Resettlement Plan: Siddhanath Baijanath Water Supply and Sanitation Subproject
21. Resettlement Framework
22. Indigenous Peoples Plan: Ilam Water Supply and Sanitation Subproject
23. Indigenous Peoples Planning Framework

Supplementary Documents

24. Financial Management Assessment
25. Land Acquisition, Involuntary Resettlement and Indigenous Peoples Due Diligence Report: Charikot Water Supply and Sanitation Subproject
26. Land Acquisition, Involuntary Resettlement and Indigenous Peoples Due Diligence Report: Charikot Decentralized Wastewater Treatment System Subproject
27. Land Acquisition and Involuntary Resettlement Due Diligence Report: Ilam Water Supply and Sanitation Subproject
28. Land Acquisition and Involuntary Resettlement Due Diligence Report: Katahariya Stormwater Drainage Subproject
29. Project Procurement Risk Assessment Report