



# Report and Recommendation of the President to the Board of Directors

---

Project Number: 42229-016  
May 2018

## Proposed Loan Kingdom of Bhutan: Secondary Towns Urban Development Project

Distribution of this document is restricted until it has been approved by the Board of Directors. Following such approval, ADB will disclose the document to the public in accordance with ADB's Public Communications Policy 2011.

Asian Development Bank

## CURRENCY EQUIVALENTS

(as of 8 May 2018)

Currency unit	–	ngultrum (Nu)
Nu1.00	=	\$0.015
\$1.00	=	Nu67.147

## ABBREVIATIONS

ADB	–	Asian Development Bank
km	–	kilometer
MLD	–	million liters per day
MOWHS	–	Ministry of Works and Human Settlements
O&M	–	operation and maintenance
PAM	–	project administration manual
PMU	–	project management unit
SDR	–	special drawing rights

## NOTE

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

<b>Vice-President</b>	Wencai Zhang, Operations 1
<b>Director General</b>	Hun Kim, South Asia Department (SARD)
<b>Director</b>	Sekhar Bonu, Urban Development and Water Division, SARD
<b>Team leader</b>	Shinjini Mehta, Urban Development Specialist, SARD
<b>Team members</b>	Saswati Belliappa, Safeguards Specialist, SARD Ana Theresa Cervantes, Senior Operations Assistant, SARD Christopher Lee Damandl, Senior Counsel, Office of the General Counsel Jaemin Nam, Financial Management Specialist, SARD Tshewang Norbu, Senior Country Coordination Officer, SARD Ninette Pajarillaga, Environment Specialist, SARD Francesco Tornieri, Principal Social Development Specialist (Gender and Development), SARD
<b>Peer reviewer</b>	Michael White, Urban Development Specialist, Southeast Asia Department

In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.

## CONTENTS

	<b>Page</b>
PROJECT AT A GLANCE	
I. THE PROPOSAL	1
II. THE PROJECT	1
A. Rationale	1
B. Impact and Outcome	4
C. Outputs	4
D. Summary Cost Estimates and Financing Plan	4
E. Implementation Arrangements	5
III. DUE DILIGENCE	6
A. Technical	6
B. Economic and Financial	7
C. Governance	7
D. Poverty, Social, and Gender	8
E. Safeguards	8
F. Summary of Risk Assessment and Risk Management Plan	10
IV. ASSURANCES	10
V. RECOMMENDATION	10
APPENDIXES	
1. Design and Monitoring Framework	11
2. List of Linked Documents	14



## PROJECT AT A GLANCE

<b>1. Basic Data</b>		<b>Project Number:</b> 42229-016	
<b>Project Name</b>	Secondary Towns Urban Development Project	<b>Department /Division</b>	SARD/SAUW
<b>Country</b>	Bhutan	<b>Executing Agency</b>	Department of Engineering Services (DES)
<b>Borrower</b>	Royal Government of Bhutan		
<b>2. Sector</b>	<b>Subsector(s)</b>	<b>ADB Financing (\$ million)</b>	
✓ <b>Water and other urban infrastructure and services</b>	Other urban services		1.65
	Urban flood protection		0.35
	Urban policy, institutional and capacity development		0.10
	Urban sewerage		0.97
	Urban water supply		6.93
	<b>Total</b>		<b>10.00</b>
<b>3. Strategic Agenda</b>	<b>Subcomponents</b>	<b>Climate Change Information</b>	
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 Urban environmental improvement	<b>ADB Financing</b> Adaptation (\$ million)	1.07
<b>4. Drivers of Change</b>	<b>Components</b>	<b>Gender Equity and Mainstreaming</b>	
Governance and capacity development (GCD)	Civil society participation Institutional development	Effective gender mainstreaming (EGM)	✓
<b>5. Poverty and SDG Targeting</b>		<b>Location Impact</b>	
Geographic Targeting	No	Urban	High
Household Targeting	No		
SDG Targeting	Yes		
SDG Goals	SDG6, SDG11		
<b>6. Risk Categorization:</b>	Low		
<b>7. Safeguard Categorization</b>	<b>Environment: B Involuntary Resettlement: B Indigenous Peoples: C</b>		
<b>8. Financing</b>			
<b>Modality and Sources</b>		<b>Amount (\$ million)</b>	
<b>ADB</b>		<b>10.00</b>	
Sovereign Project (Concessional Loan): Ordinary capital resources		10.00	
<b>Cofinancing</b>		<b>0.00</b>	
None		0.00	
<b>Counterpart</b>		<b>2.00</b>	
Government		2.00	
<b>Total</b>		<b>12.00</b>	



## I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed loan to the Kingdom of Bhutan for the Secondary Towns Urban Development Project.

2. The project will improve water supply in three secondary towns of Samdrup Jongkhar, Sarpang, and Trashigang; improve sewerage in Samdrup Jongkhar; and develop drainage and road infrastructure in Sarpang's new satellite town.<sup>1</sup> The project will support the strengthening of institutional capacity for the management and operation and maintenance (O&M) of municipal infrastructure assets; and develop water tariff guidelines.

## II. THE PROJECT

### A. Rationale

3. Bhutan has a population of 692,895 and is urbanizing at a rapid pace; the urbanization rate in 2017 was 38.4%, up from 25.4% in 2000.<sup>2</sup> At this rate, 50% of Bhutan's population will be urban by 2030 and about 75% by 2040.<sup>3</sup> Rapid urbanization in Bhutan is characterized by two key features. First is that the pace of urban infrastructure development and basic services have fallen short of the growing demand, resulting in a deficit of urban infrastructure and the deterioration of basic urban services. Second is the unbalanced growth, predominantly around two cities that account for 40% of Bhutan's urban population: Thimphu, the country's capital city; and Phuentsholing, the main trading gateway with India. The Asian Development Bank (ADB) has been supporting Bhutan's urban development since 1983 and much of the assistance since 1998 has focused on developing Thimphu and Phuentsholing.<sup>4</sup> ADB's timely support in these two cities has prevented urban sprawl, encouraged planned urban expansion, introduced land pooling,<sup>5</sup> enhanced livability, improved connectivity, and boosted growth.

4. The growth of Bhutan's secondary towns is constrained by deficiencies in infrastructure and basic urban services resulting from inadequate urban planning, weak urban institutions and municipal finances, limited budgetary support, and limited local capabilities for urban infrastructure development. Water supply service in the majority of secondary towns is intermittent for 2–12 hours daily. Without a continuous water supply, it is difficult to assess nonrevenue water but estimates suggest the range to be 30%–55%.<sup>6</sup> Water tariffs cover only about 20% of the O&M

---

<sup>1</sup> The project preparation was supported by technical assistance: Asian Development Bank (ADB). [Kingdom of Bhutan: Improved Urban Environmental Infrastructure Project](#) (TA 8551-BHU, approved in December 2013).

<sup>2</sup> Government of Bhutan, National Statistics Bureau. 2017. *Bhutan Living Standards Survey Report 2017*. Thimphu; and World Bank. 2017. [World Development Indicators](#) (accessed 29 November 2017).

<sup>3</sup> ADB. 2013. *Bhutan Transport 2040, A Strategic Vision*. Manila; and Government of Bhutan. 2017. *Strategy for Gross National Happiness 2028*. Thimphu.

<sup>4</sup> ADB. [Kingdom of Bhutan: Urban Infrastructure Improvement Project](#); ADB. [Kingdom of Bhutan: Urban Infrastructure Development Project](#); ADB. [Kingdom of Bhutan: Urban Infrastructure Project](#); ADB. [Kingdom of Bhutan: South Asia Subregional Economic Cooperation Road Connectivity Project](#); and ADB. [Kingdom of Bhutan: South Asia Subregional Economic Cooperation Transport, Trade Facilitation, and Logistics Project](#).

<sup>5</sup> Land pooling or land adjustment is a technique under which landowners contribute a certain percentage of their land (contribution ratio) to the government or developer for the development of basic services such as roads, water supply, and sewerage. Under the Land Pooling Rules of the Kingdom of Bhutan (2009), the contribution ratio from landowners should not exceed 30% of their original property area.

<sup>6</sup> ADB. 2016. *Sector Assessment Report*. Consultant's report. Manila (TA 8551-BHU).

costs of water supply. Less than half of secondary towns have a piped sewerage system (footnote 6). The government is concerned about this unbalanced urbanization.<sup>7</sup>

5. To enable balanced and equitable growth, the government's strategy for urban development (footnote 7) aims to foster secondary towns into regional growth centers by developing trade, transport, logistics, and manufacturing.<sup>8</sup> Medium-scale industries are being established along the regional centers in southern Bhutan that border India, including Samdrup Jongkhar and Sarpang, both of which are secondary towns identified as growth centers. The secondary towns need substantial urban infrastructure improvements to realize the government's vision. The project is designed to complement the government's efforts to develop secondary towns to ensure Bhutan's balanced urbanization.

6. The project will support infrastructure development and institutional strengthening in three important secondary towns—Samdrup Jongkhar and Sarpang in the southern border region of Bhutan, which are planned as growth centers with high economic potential (para. 5); and Trashigang, the largest urban center in eastern Bhutan, which has gained importance with the opening in 2017 of the Yonphula airport, which was supported by ADB.<sup>9</sup> These towns were selected for their strategic economic importance.

7. Samdrup Jongkhar and Sarpang will host two of the four industrial estates being developed by the government to promote manufacturing and create jobs.<sup>10</sup> Samdrup Jongkhar, a gateway town to India's Assam state, is a key border town in the South Asia Association for Regional Cooperation road corridor 5.<sup>11</sup> It is located 8 kilometers (km) from the 58.7 hectare Motanga industrial estate, which has capacity for 20 heavy manufacturing units. Sarpang, also located close to the Assam border, is 16 km from the 306-hectare Jigmeling industrial estate (footnote 10). Trashigang's recent access to air connectivity and strategic location on the east–west highway makes it an important tourist gateway to the less-explored eastern Bhutan. In preparation for the changes that will come with these strategic developments, these towns are already undertaking planned urban expansions, including the development of a new satellite town in Sarpang.<sup>12</sup>

8. There is a need to improve basic urban services and expand infrastructure in the newly planned town extensions to meet the specific needs. Residents of Samdrup Jongkhar and Sarpang get less than 8 hours water supply per day, while residents of Trashigang have adequate water supply but are affected by poor water quality and more than 40% nonrevenue water losses. Samdrup Jongkhar, which is the largest of the three project towns, needs to extend its sewerage

---

<sup>7</sup> Government of Bhutan, Ministry of Works and Human Settlements. 2008. *Bhutan National Urban Strategy*. Thimphu. Although there is no official definition of secondary towns in Bhutan, these can be considered as around 30 towns (excluding Thimphu and Phuentsholing) with populations of around 4,000 or more. Thimphu and Phuentsholing are classified as national or regional cities.

<sup>8</sup> Government of Bhutan. 2010. *Economic Development Policy of the Kingdom of Bhutan*. Thimphu.

<sup>9</sup> ADB. [Kingdom of Bhutan: Air Transport Connectivity Enhancement Project](#).

<sup>10</sup> The government, with the support of the Government of India, is developing four industrial estates with capacity for more than 300 small and medium-sized enterprises and 200 major industries. These estates are Jigmeling in Sarpang, Motanga in Samdrup Jongkhar, Dhamdum in Samtse, and Bondeyma in Mongar. Motanga and Jigmeling are expected to be fully operational by 2019.

<sup>11</sup> The road corridor runs between Samdrup Jongkhar, Shillong, Sylhet, Dhaka, and Kolkata. Source: South Asia Association for Regional Cooperation. [South Asia Association for Regional Cooperation Regional Multimodal Transport Study](#).

<sup>12</sup> Town populations: Samdrup Jongkhar 11,350; Sarpang 3,100 (will expand to 5,000 through the new satellite town development); and Trashigang 4,400.



network.<sup>13</sup> Sarpang's planned commercial satellite town needs investments in common urban infrastructure (roads, water supply, and drains) to attract businesses. The local governments were closely involved in project preparation ensuring that the solutions were tailor-made to the unique context of each town.<sup>14</sup>

9. **Strategic context.** The project is aligned with the government's Eleventh Five-Year Plan, 2013–2018, which focuses on balanced and sustainable urban development of human settlements.<sup>15</sup> It is in line with ADB's country partnership strategy, 2014–2018 for Bhutan, which identifies inclusive economic growth as a key strategic pillar; and is included in ADB's country operations business plan for Bhutan, 2018–2020.<sup>16</sup> It will contribute to Sustainable Development Goals 6 (ensuring availability and sustainable management of water and sanitation for all) and 11 (making cities and human settlements inclusive, safe, resilient, and sustainable).

10. **Lessons.** The project incorporates the following lessons from ADB's previous urban development operations in Bhutan: (i) strengthen municipal capacities in O&M and asset management, (ii) ensure high project readiness for timely start of construction activities, and (iii) support infrastructure investments in planned town extensions to prevent urban sprawl.<sup>17</sup>

11. **Value addition.** The project will deepen regional economic cooperation by complementing the government's investments in two growth center towns bordering India, and support one town with high tourism potential in the poorer eastern region. The project will support proactive, planned urbanization through infrastructure investments in planned town expansions, including enabling the development of Sarpang's satellite town, for which land was made available through land pooling. The project will also complement ongoing infrastructure developments being undertaken by the government and ADB in the three towns.<sup>18</sup> To ensure operational sustainability, the project will support municipal capacity building for the management and O&M of urban infrastructure assets (including nonrevenue water reduction) and develop a staged water tariff framework to enable regular tariff increases.<sup>19</sup> Nonrevenue water will be significantly reduced through metering, pressure management, and training. Targeted community initiatives such as water, sanitation, hygiene behavior change, communication, and increasing women's role in project activities will complement institutional strengthening.

---

<sup>13</sup> Due to low population densities, piped sewerage is not recommended in Sarpang and extension areas of Trashigang, where appropriate septage management is practiced.

<sup>14</sup> Sarpang and Trashigang do not have municipal governments and fall within the jurisdiction of the respective dzongkhags (district administration). Samdrup Jongkhar has its own municipal government (*thromde*).

<sup>15</sup> Government of Bhutan, Gross National Happiness Commission. 2013. *Eleventh Five-Year Plan (2013–2018)*. Thimphu. The Twelfth Five-Year Plan (2018–2023) is under preparation as of May 2018.

<sup>16</sup> ADB. 2014. *Country Partnership Strategy: Bhutan, 2014–2018*. Manila; and ADB. 2017. *Country Operations Business Plan: Bhutan, 2018–2020*. Manila.

<sup>17</sup> Lessons from the success of the ADB-supported land pooling in south Thimphu under the Urban Infrastructure Project (footnote 4) have been incorporated into the infrastructure investments in the new satellite town of Sarpang.

<sup>18</sup> The project's water supply investments in Samdrup Jongkhar (network and household connections) will complement the investments under ADB's ongoing Urban Infrastructure Project (footnote 4), which is financing upstream infrastructure (intake and water supply treatment) and are expected to be completed by mid-2018. The sewerage network investments in Samdrup Jongkhar will complement government's ongoing investments in waste water treatment. In Trashigang and Sarpang, the loan will complement the government's recent investments in water treatment.

<sup>19</sup> In Bhutan, water supply and sewerage services are maintained by the town administrations. Tariff increases are approved by the Ministry of Finance. As of May 2018, no guidelines exist for tariff preparation and approvals.

## B. Impact and Outcome

12. The project is aligned with the following impact: balanced and sustainable development of human settlements in Samdrup Jongkhar, Sarpang, and Trashigang ensured (footnote 15). The project will have the following outcome: quality, efficiency, and sustainability of urban services improved.

## C. Outputs

13. **Output 1: Urban infrastructure expanded and/or upgraded.** The project will support (i) construction of 46.8 km of new water transmission lines, 36.7 km of new water distribution pipelines, and upgrading of 2.5 km of existing water transmission pipelines; (ii) construction of six new ground-level service reservoirs with total storage capacity of 1,300 cubic meters; (iii) construction of two new water intake structures with 3.5 million liters per day (MLD) capacity; (iv) commissioning of one new water treatment plant with 1.2 MLD capacity and augmenting one water treatment plant from 0.6 MLD to 1.0 MLD capacity; (v) provision of 800 new metered water supply connections (685 residential connections and 115 institutional connections); (vi) construction of 2.5 km of sewage collection pipelines with 250 new connections (210 residential connections and 40 institutional connections); and (vii) provision of 9 km of new and improved drains and 3.74 km of new roads in Sarpang. Features of the subprojects include improving services in existing town areas, expanding service coverage to the recently planned town extensions, enhancing climate resilience of facilities,<sup>20</sup> and completing water supply and sewerage infrastructure in Samdrup Jongkhar, building on the ongoing ADB loan and government interventions (footnote 18).

14. **Output 2: Capacity of institutions and local communities strengthened.** This includes (i) developing a staged water tariff framework for the three project towns; (ii) conducting awareness-raising campaigns for at least 3,500 people (40% women) on gender and public health-related issues such as water conservation; solid-waste segregation and reduction; and water, sanitation, and hygiene; (iii) improving knowledge and skills on O&M and asset management of municipal infrastructure for 50 staff (at least 25% women) from the project management unit (PMU), project implementation units, and other municipal units; and (iv) monitoring project gender equality results through the gender equality monitoring system of the National Commission for Women and Children.

## D. Summary Cost Estimates and Financing Plan

15. The project is estimated to cost \$12 million (Table 1). Detailed cost estimates by expenditure category and by financier are in the project administration manual (PAM).<sup>21</sup>

**Table 1: Project Investment Plan**  
(\$ million)

Item	Amount <sup>a</sup>
<b>A. Base Cost<sup>b</sup></b>	
1. Output 1: Urban infrastructure expanded and/or upgraded	9.5
2. Output 2: Capacity of institutions and local communities strengthened	0.7
<b>Subtotal (A)</b>	<b>10.2</b>

<sup>20</sup> Design features include riverine flood protection for intakes using three-dimensional modeling for safe siting, anchoring to rock faces, and providing adequate protection works. Transmission lines will be secured from river flooding using suspension crossings and bracing structures will provide enhanced resilience to landslides.

<sup>21</sup> Project Administration Manual (accessible from the list of linked documents in Appendix 2).

Item	Amount <sup>a</sup>
<b>B. Contingencies<sup>c</sup></b>	<b>1.4</b>
<b>C. Financial Charges During Implementation<sup>d</sup></b>	<b>0.4</b>
<b>Total (A+B+C)</b>	<b>12.0</b>

<sup>a</sup> In early-2018 prices; exchange rate of \$1 = Nu65 is used.

<sup>b</sup> Includes taxes and duties of \$0.26 million to be financed from government resources.

<sup>c</sup> Physical contingencies are calculated at 10.0% for civil works. Price contingencies are calculated at 1.5%–1.6% on foreign exchange costs and 5.4% on local currency costs; includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

<sup>d</sup> Interest during construction for the Asian Development Bank loan has been calculated at 1.0% per annum.

Source: Asian Development Bank estimates.

16. The government has requested a concessional loan in various currencies equivalent to SDR6,868,000<sup>22</sup> 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 agreement.<sup>23</sup> ADB will finance expenditures related to works, consultants, contingencies, and interest during construction.

17. The government will contribute \$2 million to the investment costs of the proposed project to finance (i) taxes and duties, (ii) land acquisition and resettlement costs, (iii) incremental administrative costs, and (iv) part of the civil works and contingencies. The government 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.

**Table 2: Summary Financing Plan**

Source	Amount (\$ million)	Share of Total (%)
Asian Development Bank		
Ordinary capital resources (concessional loan)	10.0	83.3
Government	2.0	16.7
<b>Total</b>	<b>12.0</b>	<b>100.0</b>

Source: Asian Development Bank estimates.

18. Climate change adaptation is estimated to cost \$1.2 million. ADB will finance 89.2% of adaptation costs. Details are in the PAM.<sup>24</sup>

## E. Implementation Arrangements

19. The implementation arrangements are summarized in Table 3 and described in detail in the PAM. The PMU will procure all works and consultancy packages in accordance with ADB's Procurement Guidelines (2015, as amended from time to time) and ADB's Guidelines on the Use of Consultants (2013, as amended from time to time), respectively.

**Table 3: Implementation Arrangements**

Aspects	Arrangements
Implementation period	June 2018–July 2023
Estimated completion date	31 July 2023
Estimated loan closing date	31 January 2024
Management	

<sup>22</sup> SDR0.6868 = \$1.00 as of 24 April 2018 or \$10,000,000 equivalent.

<sup>23</sup> Draft Loan Agreement (accessible from the list of linked documents in Appendix 2).

<sup>24</sup> Appendix 10 of the PAM provides an explanation of how the climate adaptation costs were calculated.

Aspects	Arrangements		
(i) Oversight body	Project steering committee Secretary, MOWHS (chair) Project director, Department of Engineering Services; chief, Water and Sanitation Division (MOWHS); members from Directorate Services (MOWHS); Gross National Happiness Commission; Department of Macroeconomic Affairs, Ministry of Finance; National Commission for Women and Children; mayor and executive secretary of Samdrup Jongkhar <i>thromde</i> (municipal government); and <i>dzongdas</i> (district administrators) of Trashigang and Sarpang (members)		
(ii) Executing agency	Department of Engineering Services (Water and Sanitation Division), MOWHS		
(iii) Implementing agency	Sarpang and Trashigang <i>dzongkhags</i> (district administrations) and Samdrup Jongkhar <i>thromde</i>		
Procurement	National competitive bidding	7 contracts	\$8.34 million
Consulting services	PMSC (QCBS)	152 person-months	\$0.52 million
	NGO for implementation of gender action plan (CQS)	61 person-months	\$0.16 million
	Individual consultants	36 person-months (national) 15 person-months (international)	\$0.42 million
Retroactive financing and/or advance contracting	Advance contracting will be used for procurement of works and recruitment of consultants. Retroactive financing of up to 20% of the loan amount is allowed for expenditures for works and services incurred prior to loan effectiveness, but no earlier than 12 months before loan signing.		
Disbursement	The loan proceeds will be disbursed in accordance with ADB's <i>Loan Disbursement Handbook</i> (2017, as amended from time to time) and detailed arrangements agreed between the government and ADB.		

ADB = Asian Development Bank, CQS = consultant's qualification selection, MOWHS = Ministry of Works and Human Settlements, NGO = nongovernment organization, PMSC = project management and supervision consultant, QCBS = quality- and cost-based selection.

Source: Asian Development Bank.

### III. DUE DILIGENCE

#### A. Technical

20. The technical due diligence included a comprehensive review of the project's feasibility studies, detailed engineering designs, cost estimates, and site investigations. Technical aspects were appraised based on (i) relevance, benefits, proposed designs, ease of implementation, and cost-effective operations; (ii) most cost-effective technical process; (iii) full lifecycle costs; (iv) maximizing coverage area; (v) minimizing adverse environmental and social impacts; and (vi) optimal timelines for implementation through high project readiness. The detailed designs are tailored to enable seamless integration of the new infrastructure with existing facilities, considering least lifecycle cost of the entire system and use of relatively simple maintenance methods. The works are small and standard, and the country has sufficient capacity for their execution. The detailed designs will address flood and landslide risks associated with increased precipitation because of climate change (footnote 20). The deployment of full-time site engineers through the project management and supervision consultant will ensure timely and quality construction.

## B. Economic and Financial

21. **Economic analysis.** The economic internal rates of return of subprojects range from 9.2% to 21.0%, with the combined economic internal rate of return calculated at 15.3%, which is higher than the economic opportunity cost of capital of 9.0%, indicating significant economic returns. The analysis captured the value added from improved water supply and sanitation resulting in health benefits and saved resources for the beneficiaries in the three towns. The sensitivity analysis revealed that the results are also satisfactory against all downside risks, i.e., (i) a capital cost overrun of 20%, (ii) an overrun in O&M costs of 20%, (iii) a decline in estimated benefits of 20%, (iv) a 1-year delay of implementation, and (v) all downside risks combined.<sup>25</sup>

22. **Financial analysis.** The financial analysis assessed whether the project towns can cover the incremental and recurrent costs of the proposed project, since all the subprojects are estimated not to generate sufficient revenues to cover the full costs, including capital and operation expenditures. The overall municipal financial position is projected reflecting incremental revenues and expenditures as well as debt service requirements based on past performance, growth trend of revenue streams, and expected population growth. The annual average incremental recurrent costs of the project are estimated to represent about 5% of the maintenance budget of project towns. The government has also committed to providing adequate funds toward the O&M of project facilities through budgetary allocations or other means. The financial projections of the towns demonstrate that, by improving collection efficiency, rationalizing tariffs, and continuing the government's financial support, the revenue accounts will remain in surplus.<sup>26</sup>

## C. Governance

23. **Financial management.** The financial management assessment, procurement assessment, and the assessment of the anticorruption policy conducted for the Ministry of Works and Human Settlements (MOWHS) identified no major issues. The financial management assessment concluded that the MOWHS could undertake the financial management of ADB-financed projects. The overall financial management risk assessment for the project is *moderate* as the MOWHS has experience in handling ADB- and World Bank-funded projects of substantial value. In addition, the MOWHS has an established legal, institutional, and monitoring framework available for budgeting, accounting, and auditing. The risk mitigation measures include (i) strengthening the accounts and finance divisions of the PMU by engaging qualified staff for the timely preparation of financial reports, (ii) procuring a suitable accounting package for establishing better reporting and monitoring systems, (iii) training PMU staff on project financial management, and (iv) effectively implementing the systematic plans of the MOWHS and project towns for enhancing revenues and reducing costs.

24. **Procurement.** The procurement classification is B. Procurement will be undertaken at the executing agency level. The procurement risk assessment concluded that the overall procurement risk for the project is *moderate*, highlighting the need for procurement training and additional assistance through consultants. To address these issues, the project management and supervision consultants will provide support to the PMU and conduct regular procurement training sessions to improve procurement capacity.

25. **Anticorruption measures.** ADB's Anticorruption Policy (1998, as amended to date) was explained to and discussed with the government and the MOWHS. The specific policy

<sup>25</sup> Economic Analysis (accessible from the list of linked documents in Appendix 2).

<sup>26</sup> Financial Analysis (accessible from the list of linked documents in Appendix 2).

requirements and supplementary measures are described in the PAM. The mitigation measures in the project design require the PMU to establish (i) a project website for transparency in project implementation and safeguards, and (ii) a grievance redress system for handling complaints.

#### **D. Poverty, Social, and Gender**

26. The poverty rate in the three towns is 14.8%, higher than the national poverty rate of 8.2%.<sup>27</sup> The satellite areas of the towns have lower access to basic services and economic opportunities as well as lower household incomes (around 60% of the average household incomes in the main town). Lack of access to reliable and quality services, time spent on water collection, and the burden of waterborne disease are some of the key issues that affect the poor. The project's pro-poor design features include (i) providing improved water supply including metered connections in all the three towns (covering all poor and vulnerable households), benefitting 18,500 people (including 8,917 women); (ii) providing piped sewerage collection systems in new town extension areas of Samdrup Jogkhar (covering all poor and vulnerable households), benefitting 3,500 people (including 1,687 women); (iii) preparing tariff guidelines to ensure lifeline tariffs and possible cross-subsidies for the poor; and (iv) generating jobs for skilled and unskilled labor, including the poor, vulnerable groups, and women, during construction. Compliance with host country core labor standards has been included in the loan agreement and bidding documents.

27. **Gender.** The project is categorized as "effective gender mainstreaming." Poor households headed by women comprise about 3.5% of the population, with the major issue facing women being time poverty because of the burden of water collection and maintaining household hygiene. The gender action plan addresses these issues and is designed with clear targets, responsibilities, and allocation of resources.<sup>28</sup> Gender design features include (i) increasing women's access to safe water and sanitation, thereby reducing time poverty; (ii) awareness-raising campaigns for water conservation, solid-waste reduction and segregation, and water, sanitation, and hygiene to target at least 3,500 people (40% women); (iii) including women in project management and municipal trainings; (iv) capacity building on gender for project stakeholders; (v) conducting sample impact evaluation to assess women's satisfaction with improved services; and (vi) project gender reporting through the national gender reporting system.

#### **E. Safeguards**

28. **Environment.** The project is categorized B for the environment in accordance with ADB's Safeguard Policy Statement (2009). The project involves the construction and/or upgrade of water treatment plants, water transmission and distribution networks, a sewerage network, urban roads, and drainage. The project components do not pass through environmentally sensitive areas, and no significant and irreversible environmental impacts are expected. Eight draft initial environmental examination reports including environmental management plans were prepared based on detailed designs and preliminary designs and disclosed on the ADB website.<sup>29</sup> Anticipated environmental impacts during implementation include construction-related issues such as dust, noise, waste from construction and worker camps, traffic congestion, erosion, siltation, and occupational health and safety issues. Key operational impacts include health hazards because of poor water quality, increased generation of sewage and sillage because of

<sup>27</sup> ADB. 2016. *Poverty and Social Assessment Report*. Consultant's report. Manila (TA 8551-BHU); and Government of Bhutan, National Statistics Bureau. 2017. *Poverty Analysis Report 2017*. Thimphu.

<sup>28</sup> Gender Action Plan (accessible from the list of linked documents in Appendix 2).

<sup>29</sup> These eight initial environmental examination reports cover seven contract packages. Six initial environmental examination reports (covering five contract packages) have been prepared based on detailed designs.

enhanced water supply, and the need to dispose of waste from filter beds in treatment plants. To address these impacts, the project design includes adequate water monitoring guidelines and methods for safe disposal of waste. The environmental management plans—which are part of the bidding document and mandatory for the contractors—include mitigation measures to address all construction- and operation-related impacts. The draft initial environmental examinations will be updated and finalized based on detailed engineering designs and alignments and will be submitted to ADB for disclosure.

29. **Involuntary resettlement.** The project is classified category B for involuntary resettlement. The project will not result in physical and economic displacement. One resettlement plan and three due diligence reports were prepared in accordance with ADB’s Safeguard Policy Statement (2009), and will be updated after detailed measurement surveys are completed.<sup>30</sup> Involuntary resettlement impacts of the project have been adequately assessed and the proposed mitigation measures are adequate. The resettlement impacts include tree and/or crop loss for up to 19 agricultural landholders for the laying of about 2 km of water transmission pipelines in Sarpang. Land for development of basic services in the Sarpang satellite town was acquired through land pooling initiated in 2011, wherein 93 landowners donated their land in exchange for development of basic urban services. Land pooling was not undertaken in anticipation of ADB financing.<sup>31</sup> The due diligence process (including a third-party independent assessor’s report) confirms that there was no asymmetry in information availability, land inclusive of nonland assets was voluntarily pooled, no coercion was involved, and the process was undertaken in a fair and transparent manner. Compensation for nonland assets was paid in line with government policy. The safeguard documents are disclosed on the ADB website and information shared with the affected people.

30. Project preparation included meaningful and widespread consultation, and the concerns of affected people and stakeholders have been incorporated into the project design. Consultation with all communities in the project area will continue during implementation, and a grievance redress mechanism will be established. The executing agency is familiar with ADB safeguard policies, having previously implemented two ADB-funded projects and currently implementing another ADB urban project in Thimphu, Phuentsholing, and Samdrup Jongkhar (footnote 4). It has adequate institutional capacity and commitment to manage social and environmental risks.

31. **Indigenous peoples.** The project is classified category C for indigenous peoples. No distinct and separate indigenous peoples live in the project areas.

32. **Climate change.** The climate change risk screening confirms that the project has *medium* climate change risk. The project will incorporate measures to mitigate risks related to earthquakes, landslides, floods, and climate change.<sup>32</sup> Water intake structures and transmission lines were designed for enhanced resilience to flooding and landslides (footnote 20).

---

<sup>30</sup> Resettlement Plan (accessible from the list of linked documents in Appendix 2).

<sup>31</sup> Land pooling was done voluntarily and not in anticipation of ADB financing and, therefore, does not trigger principles under Safeguard Requirements 2: Involuntary Resettlement (Appendix 2 of Safeguard Policy Statement).

<sup>32</sup> Project Climate Risk Assessment and Management Report (accessible from the list of linked documents in Appendix 2).

**F. Summary of Risk Assessment and Risk Management Plan**

33. The project is considered *low risk*. Significant risks and mitigating measures are summarized in Table 4 and described in detail in the risk assessment and risk management plan.<sup>33</sup> The overall benefits are expected to outweigh the costs of mitigation.

**Table 4: Summary of Risks and Mitigating Measures**

<b>Risk</b>	<b>Mitigating Measures</b>
Extreme events (such as flash floods) delay implementation	Adaptation or resilience measures to protect the investments from pre-identified risks will be incorporated into the project design. Designs completed thus far have considered the topography, precipitation patterns, and seismic risks, because of which implementation delays are not expected.
Change in government could delay adoption of tariff framework	Tariff framework is being prepared at the request of the government. Consultations with government demonstrate a strong policy directive for this reform. The 2018 Parliamentary elections will not impact local governments, which will provide continuity.

Source: Asian Development Bank.

**IV. ASSURANCES**

34. The government has 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 the PAM and loan documents. The government has agreed with ADB on certain covenants for the project, which are set forth in the loan agreement.

**V. RECOMMENDATION**

35. 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 in various currencies equivalent to SDR6,868,000 (footnote 22) to the Kingdom of Bhutan for the Secondary Towns Urban Development 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 annum 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 agreement presented to the Board.

Takehiko Nakao  
President

28 May 2018

<sup>33</sup> Risk Assessment and Risk Management Plan (accessible from the list of linked documents in Appendix 2).



## DESIGN AND MONITORING FRAMEWORK

<b>Impact the Project is Aligned with</b>			
Balanced and sustainable development of human settlements in Samdrup Jongkhar, Sarpang, and Trashigang ensured (Eleventh Five-Year Plan, 2013–2018) <sup>a</sup>			
<b>Results Chain</b>	<b>Performance Indicators with Targets and Baselines</b>	<b>Data Sources and Reporting</b>	<b>Risks</b>
<b>Outcome</b> Quality, efficiency, and sustainability of urban services improved	By 2024: Samdrup Jongkhar, Sarpang, and Trashigang towns: <ul style="list-style-type: none"> <li>a. 24x7 water supply provided to 90% of household and institutions (2017 baseline: average 12 hours daily water supply provided to 60% of households and institutions)</li> <li>b. Nonrevenue water reduced to not more than 15% (2017 baseline: average 50%)</li> <li>c. 100% of annual O&amp;M cost of project facilities financed by government transfers, revenues, and tariffs (Baseline: n/a)</li> </ul> Samdrup Jongkhar town: <ul style="list-style-type: none"> <li>d. Collection of sewage increased to 75% (2017 baseline: 25%)</li> </ul> Sarpang town: <ul style="list-style-type: none"> <li>e. 8.5 hectares of urban land developed for mixed use (2017 baseline: 0)</li> </ul>	a–b and d–e. PMU Project completion report  c. Financial statements of Sarpang and Trashigang <i>dzongkhags</i> and Samdrup Jongkhar <i>thromde</i>	Change in government could delay adoption of tariff framework
<b>Outputs</b>  1. Urban infrastructure expanded and/or upgraded	By 2023: Samdrup Jongkhar, Sarpang, and Trashigang: <ul style="list-style-type: none"> <li>1a. A total of 46.8 km of additional water transmission lines constructed, 36.7 km of new distribution pipelines constructed, and 2.5 km of existing water transmission pipelines upgraded and/or rehabilitated (2017 baseline: 32.3 km existing transmission lines, 0 km distribution lines)</li> </ul>	1a–g. Quarterly progress reports, review mission reports, municipality statistics, and MOWHS annual reports	Extreme events (such as flash floods) delay implementation

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
<p>2. Capacity of institutions and local communities strengthened</p>	<p>1b. Six new ground-level service reservoirs constructed with a total storage capacity of 1,300 m<sup>3</sup> (2017 baseline:0)</p> <p>1c. Two new water intake structures with 3.5 MLD capacity constructed (2017 baseline: 0)</p> <p>1d. One WTP with a capacity of 1.2 MLD constructed and commissioned and one WTP upgraded to 1 MLD (2017 baseline: 0 and 1 WTP with 0.6 MLD capacity)</p> <p>1e. 800 new metered water supply connections provided (685 residential and 115 institutional) (2017 baseline: 0)</p> <p>Samdrup Jongkhar:</p> <p>1f. 2.5 km of sewage collection pipelines constructed with 250 new connections provided (210 residential and 40 institutional), (2017 baseline: 0 km sewage collection pipeline, 0 connections)</p> <p>Sarpang:</p> <p>1g. 9.0 km of new and improved drains and 3.74 km of new roads constructed (2017 baseline: 0 km drains, 0 km roads)</p> <p>By 2023:</p> <p>Samdrup Jongkhar, Sarpang, and Trashigang:</p> <p>2a. Staged water tariff framework developed (2017 baseline: n.a.)</p> <p>2b. At least 3,500 people (at least 40% women) report improved knowledge on gender and public-health-related issues such as water conservation, solid-waste segregation and reduction, and water, sanitation, and hygiene (2017 baseline: 0)<sup>b</sup></p>	<p>2a–d. Quarterly progress reports, review mission reports, MOWHS annual reports</p>	

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
	<p>2c. 50 staff from PMU and PIUs and other municipal units reported improved knowledge and skills in O&amp;M and asset management of municipal infrastructure, of which at least 25% are women (2017 baseline: n.a.)</p> <p>2d. Project gender equality results monitored through GEMS of the National Commission for Women and Children (2017 baseline: n.a.)</p>		
<b>Key Activities with Milestones</b>			
<b>1. Urban infrastructure expanded and/or upgraded</b>			
1.1 Statutory environmental clearances for subprojects obtained (Q1 2018–Q4 2019)			
1.2 Detailed engineering designs completed for all subprojects (Q2 2019)			
1.3 Civil works contracts awarded ensuring gender-sensitive designs (Q3 2018–Q3 2020)			
1.4 Water supply systems completed and commissioned (Q1 2020–Q1 2023)			
<b>2. Capacity of institutions and local communities strengthened</b>			
2.1 Gender focal persons appointed in PIUs (Q2 2018)			
2.2 Project GEMS established and functional (Q3 2018)			
2.3 Training plan for municipal and <i>dzongkhag</i> administration urban officers prepared (Q3 2019)			
2.4 Training on O&M of urban infrastructure conducted (Q2 2020–2023)			
2.5 Tariff increase implementation guidelines and action plans finalized (Q2 2020)			
<b>Project Management Activities</b>			
Individual consultants for detailed engineering designs recruited (Q2 2017–Q1 2019)			
Project management and supervision consultant firm recruited (Q3 2018)			
NGO for GAP implementation recruited (Q4 2019)			
Institutional development specialist recruited (Q2 2019)			
<b>Inputs</b>			
ADB: \$10.0 million (concessional loan from ordinary capital resources)			
Government: \$2.0 million			
<b>Assumptions for Partner Financing</b>			
Not applicable			

ADB = Asian Development Bank, GAP = gender action plan, GEMS = gender equality monitoring system, km = kilometer, m<sup>3</sup> = cubic meter, MLD = million liters per day, MOWHS = Ministry of Works and Human Settlements, n.a. = not applicable, NGO = nongovernment organization, O&M = operation and maintenance, PIU = project implementation unit, PMU = project management unit, Q = quarter, WTP = water treatment plant.

<sup>a</sup> Government of Bhutan, Gross National Happiness Commission. 2013. *Eleventh Five-Year Plan, 2013–2018*. Thimphu. The Twelfth Five-Year Plan is under preparation as of May 2018.

<sup>b</sup> This target is based on observed women's participation in the consultation activities during the project preparatory period, which averaged 30%.

Source: Asian Development Bank.

### LIST OF LINKED DOCUMENTS

<http://www.adb.org/Documents/RRPs/?id=42229-016-3>

1. Loan Agreement
2. Sector Assessment (Summary): Water and Other Urban Infrastructure and Services
3. Project Administration Manual
4. Contribution to the ADB Results Framework
5. Development Coordination
6. Financial Analysis
7. Economic Analysis
8. Country Economic Indicators
9. Summary Poverty Reduction and Social Strategy
10. Risk Assessment and Risk Management Plan
11. Project Climate Risk Assessment and Management Reporting
12. Gender Action Plan
13. Initial Environmental Examination: Sarpang Water Supply Development Subproject
14. Initial Environmental Examination: Sarpang Satellite Town Urban Roads and Drains Subproject
15. Initial Environmental Examination: Trashigang Water Distribution Network Improvement Subproject
16. Initial Environmental Examination: Samdrup Jongkhar Sewerage and Sanitation Subproject
17. Initial Environmental Examination: Samdrup Jongkhar Water Supply System Improvement Subproject
18. Initial Environmental Examination: Sarpang Satellite Town Water Supply Distribution Network Subproject
19. Initial Environmental Examination: Dewathang (Samdrup Jongkhar) Water Supply Augmentation Subproject
20. Initial Environmental Examination: Rangjung (Trashigang) Intake and Water Treatment Plant Rehabilitation Subproject
21. Resettlement Plan: Sarpang

### Supplementary Documents

22. Financial Management Assessment
23. Project Procurement Risk Assessment Report
24. Due Diligence Report: Trashigang
25. Due Diligence Report: Sarpang
26. Due Diligence Report: Samdrup Jongkhar
27. Technical Appendix