

## SECTOR ASSESSMENT (SUMMARY): MULTISECTOR (AGRICULTURE, NATURAL RESOURCES, AND RURAL DEVELOPMENT; AND WATER AND OTHER URBAN INFRASTRUCTURE AND SERVICES)<sup>1</sup>

### A. Sector Road Map

#### 1. Sector Performance, Problems, and Opportunities

1. Bhutan, a mountainous country with a population of 757,042, is one of the fastest urbanizing economies in South Asia.<sup>2</sup> The country's urbanization rate has increased from 23% in 1998 to 41% in 2018. In addition to their natural growth, Bhutanese cities are also experiencing heavy inwards migration because of availability of economic opportunities and access to facilities and education systems. The urban population is expected to reach 56.8% by 2047. This growth has mainly occurred in Thimphu, the capital, and Phuentsholing, Bhutan's second largest city.<sup>3</sup> Rapid urbanization coupled with a lack of comprehensive planning has left urban areas with inadequate and unsustainable infrastructure. Further, poor spatial planning and development controls have led to urban overcrowding, environmental degradation, and encroachment into unsafe environments. Flood risk, water shortages, and pollution are key challenges facing many of Bhutan's towns.

2. **Rural and urban flood protection.** Towns in Bhutan experience flooding and riverbank erosion each year during the monsoon season. Phuentsholing, which is located on the banks of the Amochhu River, a major Himalayan river, has suffered significantly from flood damage and riverbank erosion from seven notable events between 1993 to 2015. Monsoon-triggered flash floods are also becoming more frequent because of dense development, the loss of natural ground cover, and climate change. In 2009, Cyclone Alia, the most devastating event in Bhutan's recent history, caused significant loss of land and infrastructure. The Twelfth Five-Year Plan, 2018–2023<sup>4</sup> stresses the need to strengthen disaster resilience by ensuring a carbon-neutral development path that includes environmental considerations in all sectors and local government plans. Towns also require well-designed drainage systems and adequate maintenance systems. Urban areas like Phuentsholing, which is in the catchment area of two high-velocity rivers, require integrated flood disaster mitigation to protect built assets and preserve developable land. There is an opportunity to strengthen disaster risk reduction in Phuentsholing for both the existing township and future development areas by installing flood and erosion defenses, as well as a flood early warning system and community management plan.

3. **Scarcity of land.** Bhutan suffers from a dearth of suitable and safe space for urban growth because of a high prevalence of steep slopes, flood plains, and encroachment into land designated for agricultural use. The overall project, through developing a flood defense on the left bank of the Amochhu River, will reclaim flood plains and enable the safe and sustainable expansion of Phuentsholing township along the riverbank.

4. **Urban water and sanitation.** The government is prioritizing the provision of access to safe drinking water. About 75.6% of urban dwellers have access to piped water supply within their dwellings and another 23.8% of the urban population have access to a piped water source outside

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<sup>1</sup> This summary is based on Government of Bhutan, Ministry of Works and Human Settlement. 2008. [Bhutan National Urbanization Strategy](#). Thimphu.

<sup>2</sup> National Statistics Bureau of Bhutan 2018. *2017 Population and Housing Census of Bhutan, National Report*. Thimphu.

<sup>3</sup> Urban growth in Phuentsholing has been severely restricted because of the shortage of suitable land for development.

<sup>4</sup> Government of Bhutan. 2013. *Twelfth Five-Year Plan, 2018–2023*. Thimphu.

their dwelling (footnote 2). Despite this high coverage, poor water quality and intermittent supply remain key issues. In Phuentsholing, 100% of the population has access to an improved drinking water supply; however, its delivery is intermittent and quality substandard because of poor operational management and insufficient budget resources.<sup>5</sup> The government has set a water security target in its plan to ensure that all households have access to a continuous supply. Bhutan's access to improved urban sanitation facilities is also very high, with 99.2% of urban residents having access to an improved sanitation facility in 2017 (footnote 2).<sup>6</sup> It is estimated that nearly 50% of solid waste generated in urban areas is organic material; less than 20% is paper and plastic. Waste is disposed of in dump sites which are not very effectively managed. Urbanization is placing notable stress on existing infrastructure and services.

5. **Other urban services.** Urban development strategies, such as valley-wide planning<sup>7</sup> and integrated urban water management principles and water-sensitive urban design, which are currently being developed, are well-suited to Bhutan's terrain and natural resources. These approaches support the country's desire to conserve, use, and sustainably manage its fragile environment. Building on a government-facilitated decentralization approach, municipal institutional structures can also be strengthened to improve service delivery. This can include building the municipalities' capacities to (i) operate as autonomous and accountable service providers; (ii) deliver safe, reliable, and high-quality urban services; and (ii) make use of public-private partnerships wherever practical for improved service delivery.

6. A limited revenue base and lack of local government funding hamper infrastructure development and suitable maintenance. Land taxes have remained stagnant since 1992, and water and sewer service tariffs are low (less than Nu4.60 per cubic meter) and do not cover operation and maintenance costs. Land development and major expansions of basic services are funded largely through external loans. The operational and financial constraints of local governments are key factors in the government's decision to pursue a commercial approach to the township development.

7. **Regional integration.** Bhutan's regional growth centers need higher quality infrastructure and services to drive economic growth. They urgently need improved urban roads to enhance connectivity, adequate and sustainable water supply services, sanitation facilities to reduce environmental impacts, and drainage to control flooding. Medium-sized industries are being established in industrial zones established along the southern east-west highway.<sup>8</sup> This border region will house industrial estates, which are expected to focus on medium level and high-end production, processing, and manufacturing.<sup>9</sup> The provision of sustainable urban infrastructure is a critical step to enabling Phuentsholing, Gelephu, and Samdrup Jongkhar to leverage their potential as Bhutan's gateways to India and the wider South Asian region.

## 2. Government's Sector Strategy

8. Bhutan seeks to strengthen its institutional capacity for disaster risk management, mainstream disaster risk reduction, and establish integrated and coordinated disaster

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<sup>5</sup> Government of Bhutan, Ministry of Works and Human Settlement, Department of Engineering Services. 2016. *Preparation of Water and Wastewater Master Plan for Phuentsholing Thromde*. Thimphu.

<sup>6</sup> These improved sanitation facilities are mostly improved toilets and latrines. They do not necessarily include a connection to a sewerage or septic management system.

<sup>7</sup> Stadt Zurich and Government of Bhutan, Ministry of Works and Human Settlement. 2013. *Master Plan: Bumthang Valley Bhutan*. Zurich and Thimphu.

<sup>8</sup> The government, with the support of the Government of India, is developing three industrial estates: Jigmeling in Sarpang, Motanga in Samdrup Jongkhar, Dhamdum in Samtse.

<sup>9</sup> Government of Bhutan, Ministry of Works and Human Settlement. 2008. *Bhutan National Urbanization Strategy*. Thimphu.

management mechanisms involving community participation.<sup>10</sup> Bhutan also aims to achieve planned urban development that is economically, socially, and environmentally sustainable and stimulates economic growth while ensuring regional balance.<sup>11</sup> The Twelfth Five-Year Plan calls for increased decentralization through budgetary allocation and allocation of roles, functions, and authority to local government. It aims to support balanced growth throughout Bhutan while targeting the poorest regions.

9. The government plans to promote the southern region as the main economic hub for trade, transport, storage, and manufacturing as part of the Economic Development Policy, 2016.<sup>12</sup> This includes construction of the proposed east–west highway between Samtse and Samdrup Jongkhar, which passes through Phuentsholing. The Eleventh Five-Year Plan, 2013–2018 focuses on improving urban services, while emphasizing the promotion of regional and balanced growth and environmental sustainability; and the Twelfth Five-Year Plan seeks a just, harmonious, and sustainable society.<sup>13</sup>

## **B. Major Development Partners: Strategic Foci and Key Activities**

10. The Government of India, Asian Development Bank (ADB), World Bank, United Nations Development Programme (UNDP), Japan International Cooperation Agency (JICA), and Danish International Development Agency (DANIDA) have been key development partners of the Government of Bhutan, providing external assistance for flood protection and urban development (table).

11. In 1983, ADB approved its first urban multisector loan of \$5 million, with subcomponents for water supply, sewage, and solid-waste collection equipment.<sup>14</sup> Five more urban loans were approved during 1983–2011. The completed projects improved water supply and sanitation facilities in seven selected towns and supported the orderly expansion of Thimphu through land pooling. ADB’s urban development strategy for Bhutan, which has been guided by the government’s 5-year plans, targets orderly and sustainable urbanization by developing urban management systems and financing urban infrastructure. ADB financing of Bhutan’s urban sector as a share of its country lending volume increased from 8% during 1983–2003 to 12% during 2004–2013.<sup>15</sup> In 2020, the share of urban projects comprises 9% of ADB’s total investment portfolio in Bhutan. In addition to the major cities such as Thimphu and Phuentsholing, ADB is also currently providing support to service delivery in Samdrup Jongkhar, Sarpang, and Trashigang through the Secondary Towns Urban Development Project approved in 2018.<sup>16</sup> In 2021, ADB will support the development of water supply schemes in key *thromdes* (municipalities) as a support to the government’s Water Flagship Program and also provide funds for the development of affordable low-income housing across the country.

12. In the agriculture and natural resources sector, ADB has also provided technical assistance (TA) through the Adapting to Climate Change through Integrated Water Resources Management Project for preparing the National Integrated Water Resources Management Plan, Wangchhu River Basin Management Plan, and National Irrigation Master Plan; and support for

<sup>10</sup> Government of Bhutan. 2013. *Disaster Management Act*. Thimphu.

<sup>11</sup> Government of Bhutan. Ministry of Works and Human Settlement. 2008. *Bhutan National Urban Strategy*. Thimphu.

<sup>12</sup> Government of Bhutan. 2016. [Economic Development Policy](#). Thimphu.

<sup>13</sup> Government of Bhutan. 2013. *Eleventh Five Year Plan, 2013–2018*. Thimphu; Government of Bhutan. 2013. *Twelfth Five Year Plan, 2018–2023*. Thimphu.

<sup>14</sup> ADB. 1983. [Report and Recommendation of the President to the Board of Directors: Proposed Multi-Project Loan and Technical Assistance Grant to the Kingdom of Bhutan](#). Manila

<sup>15</sup> ADB. 2014. [Three Decades of Development Partnership: Royal Government of Bhutan and Asian Development Bank](#). Manila.

<sup>16</sup> ADB. 2018. [Report and Recommendation of the President to the Board of Directors for the Bhutan: Secondary towns Urban Development Project](#). Manila.

strengthening water resources governance. The Phuentsholing Township Development Project will provide much-needed land for expansion of Bhutan's major trade and commercial town. ADB's long-term commitment, continuity, adequate resource levels, and well-sequenced holistic approach to addressing sector constraints have been highly effective in delivering development results, leading senior government officials to assess ADB's involvement in Bhutan as indispensable.<sup>17</sup>

### Major Development Partners

Development Partner	Project Name	Duration	Amount (\$ million)
<b>Urban water and other urban infrastructure and services</b>			
ADB	Water Supply and Sanitation in Six Towns	1983	0.40
	Urban Centers Water Supply and Sanitation	1984	5.10
	Urban Infrastructure Improvement Project (Loan 1625-BHU)	1998–2005	5.70
	Urban Infrastructure Development Project (Loan 2258-BHU)	2006–2014	24.60
	Urban Infrastructure Project (Loan 2816-BHU)	2011–2021	19.87
	Secondary Towns Urban Development Project (Loan 3674-BHU)	2018–2023	10.00
World Bank	Phuentsholing Township Development Project	2018–2025	53.00
	Bhutan Urban Development Project I	1999–2006	10.80
	Bhutan Urban Development Project II <sup>a</sup>	2010–2019	12.70
DANIDA	Additional Financing to the Bhutan Urban Development Project II	2014–2019	17.40
	Urban Centers Sewerage	1987	2.50
UNDP	Urban Centers Water Supply	1993	3.90
	Environmental Sector Program Support 1 and 2	1998–2005	3.20
	Urban Sector Program Support 3	1999–2005	9.60
	Environmental and Urban Sector Support Program 4 and 5	2004–2010	9.90
Government of India	Urban Development and Housing Technology	1983–1987	0.60
	Urban Planning	1985–1987	0.50
	Strengthening Capacities for Urban Management	1996–1999	0.50
JICA	Preparation of a National Adaptation Plan for Bhutan (water sector)	2019–2023	0.71
	Upgrading of Punakha Town (Kuruthang)	1996, 2016	1.50
JICA	Project on Support for Community Engagement in Local Governance	2015–2018	1.89
<b>Urban flood protection</b>			
ADB	Adapting to Climate Change through Integrated Water Resources Management	2014–2016	1.75
World Bank	Improving Disaster Management Capacity in the Kingdom of Bhutan	2012–2014	0.40
JICA	Project for Capacity Development of Glacial Lake Outburst Floods and Rainstorm Flood Forecasting and Early Warning System	2013–2016	
UNDP	Response and Recovery Preparedness in Bhutan	2014–2016	0.26
UNDP	Addressing the Risk of Climate-Induced Disasters through Enhanced National and Local Capacity in Bhutan	2012–2015	11.49

ADB = Asian Development Bank, DANIDA = Danish International Development Agency, JICA = Japan International Cooperation Agency, UNDP = United Nations Development Programme.

<sup>a</sup> World Bank. 2014. *Bhutan: Country Snapshots*. Washington, DC.

Source: ADB.

13. The Government of India remains Bhutan's principal socioeconomic development donor, having been a key development partner for large infrastructure projects such as roads, bridges, and hydro power. In 1996, it undertook a major urban development project to decongest the town of Punakha by developing the newly planned town of Kuruthang, and in 2011 it supported the "Government to Citizen" initiative to improve municipal management by improving municipal finances and reforming tariffs and user fees. Under Bhutan's Twelfth Five-Year Plan, the Government of India approved 100 projects worth Nu1.732 billion (about \$24 million) in May 2020. The projects cover urban infrastructure, farm roads, irrigation channels, bridges, and health and education infrastructure.

<sup>17</sup> ADB. 2010. *Evaluation Study: Country Assistance Program Evaluation: Bhutan*. Manila.

14. Through its three phases of local governance and decentralization TA projects, JICA has helped to enhance the capacities of local government officials and improve public service delivery to communities.<sup>18</sup> JICA's ongoing Project for Support for Community Engagement in Local Governance supports measures to promote community groups' engagement in local governance. In 2019, JICA operationalized a high-tech sewage treatment plant in Hejo, Thimphu through a public-private partnership. JICA is also supporting Japanese nongovernment organizations to work with a Bhutan toiletry association for the introduction of odor-free, low water use plastic toilets (Sato toilets) and is providing support for procurement of solid-waste management equipment in four cities and capacity building of local government and communities in Thimphu.

15. UNDP was active in the urban sector until 1999. With help from the United Nations Center for Human Settlements, it funded the Strengthening Capacities for Urban Management and Human Settlements Sector Planning Project, which focused on urban strengthening in Thimphu and Phuentsholing.<sup>19</sup> UNDP has since actively supported climate change adaptation and disaster risk reduction in Bhutan. Its current project, Addressing the Risk of Climate-Induced Disasters through Enhanced National and Local Capacity in Bhutan, supports flood protection in Pasakha. UNDP is the Government of Bhutan's preferred partner for submission of green climate fund grants. UNDP is the implementing partner for the preparation of a national adaptation plan (funded by the Green Climate Fund) with the objective of identifying and developing medium- to long-term climate adaptation priorities focusing on water as a multisector issue.

16. The Danish International Development Agency (DANIDA) has helped the Government of Bhutan by providing urban infrastructure such as water and wastewater treatment plants in Thimphu and Phuentsholing, a landfill in Phuentsholing, and a pilot social housing project in Thimphu. DANIDA has also supported urban infrastructure in Damphu, Gelephu, Gyelposhing, Mongar Samtse, and Trashigang. During 1998–2010, DANIDA also provided long-term sector assistance through a set of urban development support programs.<sup>20</sup>

17. The World Bank has funded various infrastructure and capacity building projects in the urban sector, including (i) utility billing and account management in 10 towns through its Bhutan Urban Development Project; and (ii) the expansion of Thimphu city by developing local area plans in north Thimphu, and strengthening municipal management systems in Thimphu and Phuentsholing under the Second Urban Development Project.<sup>21</sup> It has also supported improved disaster management capacity in Bhutan. It has shifted 60% of its lending toward budgetary support for the national treasury and uses the remaining 40% to support road and urban development programs in alternate years.

### **C. Institutional Arrangements and Processes for Development Coordination**

18. Development coordination in Bhutan has been project based, with the government coordinating new projects through discussions with development partners. The establishment of ADB's Bhutan Resident Mission in 2012 and expansion of staff numbers has strengthened coordination with other development partners. The government's roundtable meetings with development partners—held twice over the course of a 5-year-plan period—provide a formal

<sup>18</sup> Current support is directed towards rural electrification and roads. JICA also undertakes procurement of equipment for the health sector (e.g., ambulances).

<sup>19</sup> UNDP has now shifted its focus to governance.

<sup>20</sup> Including developing the 2010 draft municipal finance policy. DANIDA. 2014. *Bhutan–Denmark: The Story About 30 Years of Bhutanese–Danish Partnership*. Copenhagen.

<sup>21</sup> ADB has undertaken the southern expansion of the city. ADB. 2006. [Report and Recommendation of the President to the Board of Directors: Proposed Loan and Technical Assistance Grant to the Kingdom of Bhutan for the Urban Infrastructure Development Project](#). Manila (.

occasion at which development partners and the government can coordinate development assistance.<sup>22</sup> ADB has used these meetings to coordinate its operations with those of other funding agencies by avoiding overlaps and effectively leveraging scarce resources. The recent interagency working group on the coronavirus disease response has also served as a useful platform for coordinating support.

#### D. ADB Experience and Assistance Program

19. Since 2000, ADB has provided five urban TA projects, including the preparation of detailed feasibility studies for two loans. ADB support in the sector increased substantially through the Urban Infrastructure Improvement Project (completed in June 2005),<sup>23</sup> followed by the much larger Urban Infrastructure Development Project.<sup>24</sup> Both loans focused on Thimphu and Phuentsholing; the most recent also included Dagana municipality. In 2011, ADB approved the Urban Infrastructure Project, which focuses on infrastructure development in Thimphu, Phuentsholing, and Samdrup Jongkhar.<sup>25</sup> In 2018, ADB provided support for improving infrastructure in smaller towns through its Secondary Towns Urban Development Project, under which water supply, sewerage, roads, and drainage infrastructure are being developed in Sarpang, Samdrup Jongkhar, and Trashigang.<sup>26</sup>

20. Major achievements of recent ADB assistance include the successful development of urban infrastructure, particularly in Thimphu and Phuentsholing (footnote 21). Dialogues with the government and other development partners, primarily through the roundtable meetings, have helped ADB harmonize its assistance to Bhutan. ADB's validation of the country partnership strategy final review, 2014–2018 noted risks to project sustainability, particularly for the components that relate to organizational and financial aspects, e.g., in road maintenance, urban infrastructure tariffs, and maintenance, which need to be addressed in follow-on projects.<sup>27</sup>

21. As a major development partner in Bhutan's urban sector, ADB is focusing on developing and rehabilitating essential municipal infrastructure and services, with a focus on water supply and sewerage subprojects. As ADB continues to coordinate through the Ministry of Finance, it is recommended that the Ministry of Finance should lead periodic discussions with development partners working on public sector management, finance sector development, and disaster risk reduction. Such discussions will enable future development assistance projects to address gaps proactively and complement the activities of ongoing projects.

22. The impacts of ADB involvement to date include the provision of much-needed investments in urban infrastructure in Thimphu and Phuentsholing as well as support for crucial infrastructure development in secondary towns. This has improved the quality of life, public health, and environment of more than 130,000 people and enabled greater private and commercial development. ADB's continued involvement in the sector is key to building municipalities' capacity and meeting the municipal service requirements of their rapidly growing populations.

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<sup>22</sup> The Gross National Happiness Commission organizes the first roundtable meeting before the start of the 5-year period, and the second roundtable meeting in the middle of the 5-year period.

<sup>23</sup> ADB. 1998. [Report and Recommendation of the President to the Board of Directors: Proposed Loan to the Kingdom of Bhutan for the Urban Infrastructure Improvement Project](#). Manila.

<sup>24</sup> ADB. 2006. [Report and Recommendation of the President to the Board of Directors: Proposed Loan and Technical Assistance Grant to the Kingdom of Bhutan for the Urban Infrastructure Development Project](#). Manila.

<sup>25</sup> ADB. 2011. [Report and Recommendation of the President to the Board of Directors: Proposed Loan to the Kingdom of Bhutan for the Urban Infrastructure Project](#). Manila.

<sup>26</sup> ADB. 2018. [Report and Recommendation of the President to the Board of Directors: Proposed Loan and Technical Assistance to the Kingdom of Bhutan for the Secondary Towns Urban Development Project](#). Manila.

<sup>27</sup> ADB. 2019. [Bhutan Validation of the Country Partnership Strategy Final Review, 2014–2018](#). Manila.

## PROBLEM TREE - MULTISECTOR (Agriculture, Natural Resources, and Rural Development; and Water and Other Urban Infrastructure and Services)

