

## SECTOR ASSESSMENT (SUMMARY): WATER AND OTHER URBAN INFRASTRUCTURE AND SERVICES<sup>1</sup>

### Sector Road Map

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

1. During 2000–2010, Bhutan’s rate of annual urban population growth was the highest in South Asia, at 5.7%.<sup>2</sup> In 2015, the National Statistics Bureau estimated Bhutan’s population at 757,042, 31% of whom lived in cities, with an annual growth rate of 1.2% in rural areas and 1.4% in urban areas. The average household size is 4.6 people.<sup>3</sup> At the current rate of urbanization, more than 50% of Bhutan’s population will live in cities by 2030,<sup>4</sup> and this figure is estimated to reach 75% by 2040.<sup>5</sup> This growth has mainly occurred in Thimphu, the capital, and Phuentsholing, Bhutan’s second largest city.<sup>6</sup> Rapid urbanization coupled with a lack of comprehensive planning has left urban areas with inadequate and unsustainable infrastructure. Furthermore, poor spatial planning and development controls have led to urban overcrowding, environmental degradation, and encroachment into unsafe environments, such as steep unstable slopes. Inadequate urban infrastructure and services leading to poor quality of life and a deteriorating urban environment are key challenges facing many of Bhutan’s towns.

2. **Urban infrastructure deficits in secondary towns.** Urbanization is placing notable stress on existing infrastructure and services. The country’s urban infrastructure and services have not been adequately expanded because of the low revenue base and a lack of local government funding.<sup>7</sup> Meanwhile, the central government cannot help local governments meet their funding needs because of its own budgetary constraints. This means that the major expansion of basic services and the land development that are urgently required in urban areas must be funded externally from loans. Traditionally, the limited budgetary support from the center or international funding sources have been targeted towards the larger towns such as Thimphu and Phuentsholing to promote the competitiveness of these larger economic centers. Thus, the smaller secondary towns have lacked financing support and suffer from sporadic water supplies,<sup>8</sup> unsatisfactory water quality from poorly operated treatment facilities,<sup>9</sup> lack of sewerage and sanitation facilities,<sup>10</sup> inadequate solid-waste disposal facilities, and insufficient drainage infrastructure<sup>11</sup> to prevent regular flooding. The resulting poor livability and deteriorating urban environments are constraining the full economic potential of these towns. To be the major drivers of economic growth that they are in other middle-income developing economies, Bhutan’s

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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> World Bank. 2016. *Leveraging Urbanization in South Asia: Managing Spatial Transformation for Prosperity and Livability*. Washington, DC.

<sup>3</sup> National Statistics Bureau. 2015. *Statistical Year Book of Bhutan 2015*. Thimphu.

<sup>4</sup> Annual population growth is more than 8% in Thimphu and 3% or higher in Phuentsholing and the other 18 regional and provincial centers.

<sup>5</sup> ADB. 2013. *Bhutan Transport 2040, A Strategic Vision*. Manila; and Government of Bhutan. *Strategy for Gross National Happiness 2028*. Thimphu.

<sup>6</sup> Urban growth in Phuentsholing has been severely restricted because of the shortage of suitable land for development.

<sup>7</sup> Land taxes have not been raised since 1992, and there is a low tariff base for urban services.

<sup>8</sup> The three towns included in the Secondary Towns Urban Development Project average less than 12 hours of water service per day, ranging from 4 hours per day in Sarpang to 24 hours in certain areas of Trashigang.

<sup>9</sup> While water treatment plants have been provided in Trashigang, Rangjung, and Sarpang, network improvements are required for nonrevenue water reduction.

<sup>10</sup> Sewerage and sewage treatment facilities do not exist in Sarpang and are inadequate in Trashigang.

<sup>11</sup> Sarpang and Samdrup Jongkhar suffer from regular catastrophic flooding.

secondary towns need good urban infrastructure such as adequate and sustainable water supply, sanitation, and drainage facilities.

3. **Unsustainable urban services.** A limited revenue base and lack of local government funding hamper not just investments in infrastructure but also the sustainable operation and maintenance (O&M) of limited existing infrastructure. Land taxes have remained stagnant since 1992, and water and sewer service tariffs are low (mostly around Nu1.25 per cubic meter) and do not cover O&M costs. Urban services like sewerage, drainage, and urban roads are not revenue generating, and are either not maintained properly or generate further budget deficits if suitable funds are allocated towards their O&M. The O&M deficits are being met through central government transfers (grants) which the local governments are entitled to under Section 18(c) of the Local Government Act 2009. Land development and major expansions of basic services are funded largely through external loans. Local governments' operational and financial constraints are key challenges being faced by the sector.

4. **Capacity constraints at the local level.** There is limited capacity at the local level to design, implement, and manage urban infrastructure. Most secondary towns are under the purview of the district administrations, which usually have only 1–2 engineers dedicated to urban areas. There is limited experience in managing water and sewerage treatment infrastructure that is not of the package or modular type, the O&M of which is usually outsourced to the supplier of the plant. Building on a government-facilitated decentralization approach under the Twelfth Five-Year Plan, municipal institutional structures need to be strengthened to enhance service delivery.<sup>12</sup> This can include building the municipalities' capacity to (i) operate as autonomous and accountable service providers; (ii) deliver safe, reliable, and high-quality urban services; (iii) strengthen municipal finance capacities; and (iv) make use of public–private partnerships wherever practical.

## 2. The Government's Sector Strategy

5. The government's overall development plan was set out in the 2008 Bhutan 2020 vision document,<sup>13</sup> as well as through its National Poverty Reduction Strategy in 2009 and subsequent 5-year plans. The Eighth Five-Year Plan for 1998–2003 stressed the need to provide basic urban services. The Ninth Five-Year Plan (2003–2008) focused on poverty reduction and built on the concept of devolution of responsibility to local governments. The Tenth Five-Year Plan,<sup>14</sup> which covered 2008–2013, concentrated on improving the management of urban services through legislation and the granting of autonomy to municipalities. The Eleventh Five-Year Plan (2013–2018) seeks to continue improving urban services, with emphasis on promoting regional and balanced growth and environmental sustainability. The upcoming Twelfth Five-Year Plan has a unique focus on decentralization.

6. **Regionally balanced urban development.** Bhutan seeks to achieve planned urban development that is economically, socially, and environmentally sustainable and stimulates economic growth while ensuring regional balance.<sup>15</sup> The Tenth Five-Year Plan, 2008–2013 and the Eleventh Five-Year Plan, 2013–2018 prioritized balancing regional development to manage the rapid pace of urbanization so as to spread development and opportunities equitably across the country. To this effect, the Eleventh Five-Year Plan calls for the development of regional

<sup>12</sup> Government of Bhutan. 2018. *Twelfth Five-Year Plan, 2018–2023*. Thimphu.

<sup>13</sup> Government of Bhutan, Planning Commission. 1999. *Bhutan 2020: A Vision for Peace, Prosperity and Happiness*. Thimphu.

<sup>14</sup> Government of Bhutan. 2009. *Tenth Five-Year Plan, 2008–2013*. Thimphu.

<sup>15</sup> Government of Bhutan. Ministry of Works and Human Settlement. 2008. *Bhutan National Urban Strategy*. Thimphu.

growth centers outside of Thimphu and Phuentsholing—the country’s two largest urban areas. The government has identified strategic urban areas for regional economic development in the western, central western, central eastern, and eastern regions. Sarpang and Samdrup Jongkhar towns, which are two of the three towns being supported under the project, are designated as regional growth centers because of their proximity to the Indian border and have potential for regional-trade-related economic growth.

7. **Thrust towards decentralization.** The objective of the Twelfth Five-Year Plan, 2018–2023 is “just, harmonious and sustainable society through enhanced decentralization.” While the past plans have focused on infrastructure development, the Twelfth Five-Year Plan focuses more on strengthening institutions to maximize the benefits of existing infrastructure through sustainable management of facilities. It aims to empower local governments through provision of greater financial, planning, and administrative responsibilities. It entails increasing the share of resources to local governments and building capacities of local government functionaries. The vision of the Twelfth Five-Year Plan was put in motion in 2015 when the Parliament declared 16 *dzongkhag thromdes* (district municipalities) and 20 *yenlang thromdes* (satellite municipalities) in 2015.<sup>16</sup> These reforms were effected to give local administrations greater responsibility for the delivery of sustainable infrastructure and services and aim to create urban authorities that function independently from the district administrations. This devolution strategy, which is consistent with the Local Government Act 2009 and Municipal Finance Policy (2012),<sup>17</sup> is expected to address the need to scale up the provision of basic services from their current levels which are inadequate for a growing urban population. The devolution of responsibilities needs to be complemented by the devolution of authorities to act on those responsibilities. With limited capacity at the local level there is a serious need for a long-term sector strategy to guide the new *thromdes* in planning, investment, and maintenance of urban infrastructure. The ability of local governments to plan budgets, manage O&M, and deal with private sector service providers requires considerable strengthening and technical capacity building.<sup>18</sup> Key issues need attention, including setting appropriate tariff levels and their implementation to meet cost recovery,<sup>19</sup> retaining resources collected from service delivery, accessing a domestic capital market, and opportunities to provide tax incentives to generate local investment in infrastructure development and employment opportunities.

### 3. ADB Sector Experience and Assistance Program

8. Since 2000, the Asian Development Bank (ADB) has provided five urban sector technical assistance 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>20</sup> followed by the much larger Urban Infrastructure Development Project (approved in 2006, completed in 2016).<sup>21</sup> Both loans focused on Thimphu and Phuentsholing; the most recent also included Dagana municipality. The latter project, which

<sup>16</sup> Bhutan has 20 *dzongkhags* (districts). A *dzongkhag thromde* (district municipality) is the main district headquarters, and *yenlang thromdes* are satellite towns within these districts. It is estimated that there are 18,699 voters in 20 *dzongkhag thromdes* and 4,885 voters in 20 *yenlang thromdes*. The second Parliament of Bhutan declared the final delimitation of new urban areas in its fifth (summer) session in 2015. As per the Election Act 2008, the Election Commission of Bhutan approved the “Final Delimitation Order of the Gewog Tshogde Tshogpa Demkhongs (Chiwogs) of the 205 Gewogs in the 20 Dzongkhags” on 27 February 2011.

<sup>17</sup> Government of Bhutan, Ministry of Works and Human Settlement. 2012. *Thromde Finance Policy*. Thimphu. Thromde means local government.

<sup>18</sup> All local governments have low revenue bases and struggle to provide basic O&M.

<sup>19</sup> Municipalities are not autonomous in setting their land taxes and increasing their water and sewerage tariffs.

<sup>20</sup> ADB. [Kingdom of Bhutan: Urban Infrastructure Improvement Project](#). Manila.

<sup>21</sup> ADB. [Kingdom of Bhutan: Urban Infrastructure Development Project](#). Manila.

was rated *successful* at completion, supported the planned expansion of Thimphu city by developing four local area plans in the south of the city using the land pooling approach. In 2011, ADB approved the Urban Infrastructure Project, which focuses on infrastructure development in Thimphu, Phuentsholing, and Samdhrup Jongkhar.<sup>22</sup> Among others, the project is supporting a covered waste water treatment plant in Thimphu using an innovative design–build–operate modality. This is enhancing Thimphu municipality’s capacity to work in collaboration with the private sector for construction and maintenance of critical municipal infrastructure.

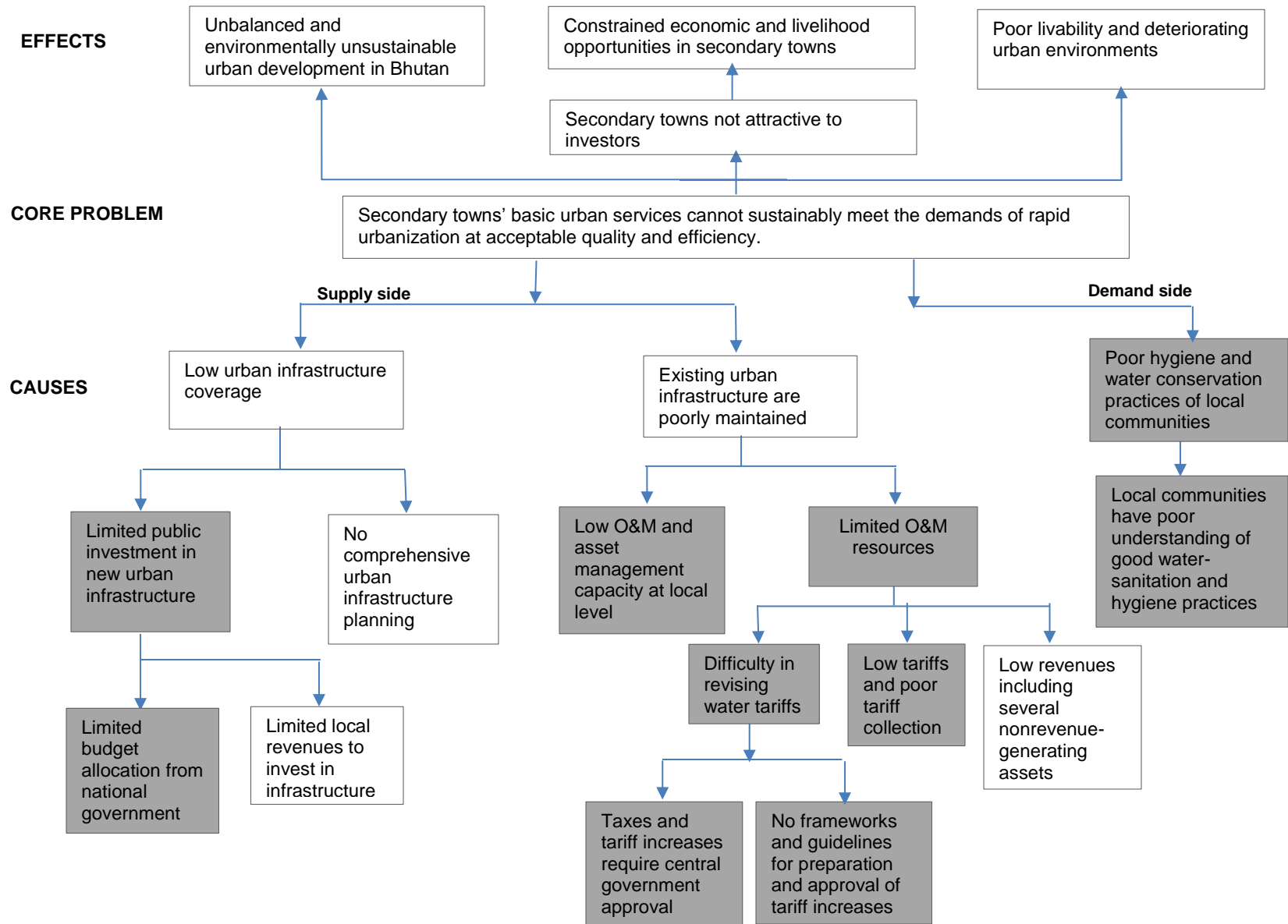
9. The impacts of ADB involvement to date include the provision of much-needed investments in urban infrastructure in Thimphu and Phuentsholing. This has improved the quality of life, public health, and environment of more than 130,000 people and enabled greater private and commercial development. ADB’s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

10. ADB will support the development of municipal infrastructure such as water supply and sewerage, solid-waste management, and roads, targeted at the unserved and underserved, including the urban poor. In parallel, ADB’s interventions incorporate institutional development, small and medium-sized enterprise development, good urban governance, planning, cost recovery of urban services, and development of opportunities and readiness for private sector involvement in the provision of urban services. Crosscutting issues include strengthening gender, social, environmental, and private sector inclusion in urban development.

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<sup>22</sup> ADB. [Kingdom of Bhutan: Urban Infrastructure Project](#).

### Problem Tree for Water and other Urban Infrastructure and Services



**Legend:**

■ Scope of Project

O&M = operation and maintenance.