



## Review of Policy

# Legal and institutional arrangements for urban sanitation and hygiene in Bhutan



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The authors would like to thank all who assisted this review by providing valuable information and perspectives, including the Ministry of Works and Human Settlement, Ministry of Health, Thimphu City Corporation, National Environment Commission, Gross National Happiness Commission, Chukkha Dzongkhag (District) and SNV.

This project is financially supported by:  
The Ministry of Foreign Affairs (DGIS), the Netherlands

Project partners:  
Ministry of Works and Human Settlement; Thimphu City Corporation

Published: May 2012

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# Abbreviations

ADB	Asian Development Bank
BBS	Bhutan Broadcasting Service
BCC	Behavior Change Communication
BHU	Basic Health Unit
CBO	Community Based Organisation
CPS	Community Primary School
DES	Department of Engineering Services
DHO	Dzongkhag Health Officer
DHS	Department of Human Settlements
DPHE	Dzongkhag Public Health Engineering
DPL	Deep pit latrine
ECOPs	Environmental Codes of Practice
FGD	Focus Group Discussion
FYP	Five-Year Plan
GAO	Gewog Administrative Officer
GNHC	Gross National Happiness Commission
GLAAS	Global Analysis and Assessment of Sanitation and Drinking Water
HA	Health Assistant
HH	Households
IDI	In-depth Interview
JMP	Joint Monitoring Programme
KII	Key Informant Interview
LSS	Lower Secondary School
M	Metre
MoH	Ministry of Health
MoF	Ministry of Finance
MoWHS	Ministry of Works and Human Settlements
MSS	Middle Secondary School
NEC	National Environment Commission
OAM	Opportunity, Ability and Motivation
OD	Open defecation
PF	Pour flush
PHCB	Population and Housing Census of Bhutan
PHED	Public Health Engineering Division
RGoB	Royal Government of Bhutan
RWSS	Rural Water Supply and Sanitation
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization
UNICEF	United Nations Children's Fund

# Summary

This review explores the legal and institutional frameworks guiding urban sanitation and hygiene in Bhutan. It was commissioned in April 2012 to inform the Sustainable Sanitation and Hygiene for All in Small Towns (SSH4A in Small Towns) programme being undertaken by SNV Bhutan and the Ministry of Works and Human Settlements (MoWHS). This review is the product of a desktop review and consultations with key informants to assess the policy, legal and institutional arrangements for urban sanitation and hygiene in Bhutan, with a particular focus on situation in smaller urban centres.

Overall, this review found numerous strengths within the existing legal and institutional landscape. High-level national development plans, including past and current 11th five-year plans (FYP), note the importance of urban sanitation and there are comprehensive environmental regulations covering a number of critical aspects of sanitation management. There is also a clear institutional lead for urban sanitation, with the MoWHS driving priorities and initiatives at national level.

This review also identifies gaps as well as highlights opportunities and priorities for further strengthening the regulatory and institutional landscape. Most importantly, it recommends priority be given to development of a national policy to guide the urban sanitation and hygiene sector, which could be within a consolidated urban water, sanitation and hygiene policy. Articulation and documentation of a national approach that establishes principles, objectives and processes for sanitation planning, service provision, hygiene promotion and infrastructure investment and management would provide a consistent high level of direction for the sector.

Within current legal arrangements, there is scope to improve how onsite sanitation systems are defined and regulated. Regulations identify networked sewerage systems as the ideal solution for urban sanitation and position onsite systems, including septic tanks, as an interim solution. However, this is a prescriptive approach to technology selection that is unhelpful for a number of reasons. Networked sewer systems and centralised wastewater treatment plants are appropriate in certain contexts, but not necessarily for all and are yet to fully service any urban settlement in Bhutan. A prescriptive approach to technology selection means potential alternatives more locally appropriate, cost-effective and within local authorities' technical and management capacity in human resource and financing terms are not considered. Furthermore, by positioning septic tanks as interim solutions only used until networked systems are constructed, there is a risk that proper regulation and implementation of measures to ensure safe management of septic tanks are not prioritised.

Clarity around responsibility for hygiene promotion is identified as a significant policy gap in urban areas, with unclear institutional responsibilities and inconsistent references to hygiene promotion within supporting policies and laws. There is opportunity to clarify the roles of different agencies and ensure the critical role of hygiene promotion is reflected in regulations governing urban and rural areas.

Consultation with key informants identified implementation of policies, laws and regulations as the most significant challenge for institutions engaged in management of urban sanitation and hygiene. Agencies at national and sub-national levels require additional support in human and budgetary resources to facilitate implementation, monitoring and compliance management of the legal regime. There are current gaps in technical capacity, particularly around management of onsite systems. Moreover, many ambitious aspects of regulations, such as proper treatment and disposal of sludge management, are not possible in urban areas where facilities and service providers do not exist, particularly in small towns.

Strengths as well as gaps and opportunities are summarised in the following table with reference to: (i) overall policy directions; (ii) laws and regulations; (iii) institutional arrangements; and, (iv) additional areas for consideration. Priorities and actions identified during an inter-agency workshop in Thimphu (April 2012) in response to the draft review are highlighted later in this document.

Area of focus	Strengths	Gaps and opportunities
(i) Policies and strategies	<p>Bhutan 2020 provides a national vision for equitable access to basic services and infrastructure, with priority given to rapid expansion of access to potable water and safe sanitation. The vision statement envisages steady progress towards affordable and equitable access to water and safe sanitation for the improvement of health outcomes.</p> <p>The five-year planning process provides a nationally coherent framework for development that reflects priorities from districts across Bhutan. The inclusion of urban sanitation within the 11th FYP emphasises its importance for achieving national development goals.</p> <p>A national policy for rural water supply, sanitation and hygiene exists, providing a model that could be replicated to inform development of an integrated high-level policy for urban WASH sector.</p> <p>The National Health Policy notes intent to strengthen collaboration between the Ministry of Health (MoH) and other agencies with reference to urban sanitation. It also provides for provision of holistic health education through educational institutions.</p> <p>High-level policy directives endorse the ‘middle road’ approach to development, which emphasises the importance of environmental protection. This provides a solid foundation for the development of policies, laws and institutional arrangements that support urban sanitation solutions that protect the environment and resources.</p>	<p>The 11th FYP mentions urban sanitation, but is narrowly focused on the construction of networked sewer systems. This prescriptive approach to technology selection is unhelpful in guiding efforts to expand service delivery, particularly for smaller and emerging towns.</p> <p>The plan also needs to place emphasis on the critical role of hygiene promotion in urban as well as rural areas.</p> <p>Development of a national policy for urban sanitation and hygiene is a priority to support sector development. A national approach (which could be part of an integrated urban Water, Sanitation and Hygiene (WASH) policy) would provide much needed direction by establishing principles, objectives and processes for sanitation service provision, hygiene promotion and infrastructure investment and management.</p> <p>The role of hygiene promotion in preventing communicable diseases could be emphasised within the National Health Policy, as it is currently only referred to as relevant for non-communicable diseases.</p> <p>Within a nationally defined approach, there is a need to explicitly consider the situation for smaller and emerging towns. Current policy documents refer to ‘urban areas’ in general, with emphasis on larger cities.</p>
(ii) Laws and regulations	<p>The 1995 Water and Sanitation Rules (1995 Rules) clearly delineate responsibilities for installation and maintenance of sanitation infrastructure between property owners and city corporations for large cities where sewage treatment facilities exist.</p> <p>The 1995 Rules present environmentally sound approaches to sanitation and drainage, as they stipulate separate management of household wastewater from stormwater and require all household wastewater (toilet water and wastewater from other fixtures) to be treated. Implementing this principle is a challenge.</p> <p>The Environmental Codes of Practice (ECOPs) for Sanitation and Sewage Management in Urban Areas provide comprehensive guidance on management of onsite systems, in particular septic tanks and sludge management.</p> <p>The ECOP for Sanitation and Sewage Management emphasises a context appropriate, evidence-based approach to determining the most appropriate sanitation solution for different urban areas.</p> <p>The Waste Prevention and Management Act 2009 offers a potential mechanism for enforcing proper management of human waste, particularly from onsite sanitation systems. Furthermore, the Act identifies lead agencies responsible for implementation at various levels – Thromde (town), Dzongkhag (districts), Gewog (block) and Chiwog (village).</p>	<p>Sewerage requirements of the 1995 Rules only apply to urban areas in which sewerage facilities are available (as described in Section 1.1 Drainage and Sanitation Requirements). Although provisions of the Rules relating to construction and management of septic tanks are relevant for all urban areas, the broader application of the Rules for smaller towns is unclear and there remain questions around how to manage sewage in these areas. There is no equivalent legal document guiding sanitation management arrangements for smaller towns.</p> <p>The 1995 Rules require greywater be treated along with blackwater. However, this is poorly implemented and greywater is typically discharged untreated into drains. There is a need to identify realistic and environmentally sound grey water management options.</p> <p>There is a gap relating to regulation of cluster scale treatment options. They are not covered by either the 1995 Rules or the ECOP on Sanitation and Sewage Management for Urban Areas. Decentralised and communal septic systems are of interest in new development areas and there is a need for guidance on appropriate construction and management of these systems when identified as the most appropriate solution.</p> <p>The status of ECOPs, including the ECOP for Sanitation and Sewage Management in Urban Areas, is unclear. There is an opportunity to consider transitioning the guidelines into formal regulations to facilitate compliance and enforcement of important environmental protection measures, including the issue of sludge management.</p>



Area of focus	Strengths	Gaps and opportunities
	<p>Recently revised standards for sewerage effluent outlined in the Environmental Discharge Standard 2010 provide a benchmark for treatment of effluent before discharge to waterways. These standards could be referred to in other legal documents, establishing performance benchmarks to inform technology selection.</p> <p>Various regulations, including the 1995 Rules and the ECOP on Sanitation and Sewage Management for Urban Areas, give authority to responsible agencies to charge tariffs for management of wastewater. This creates options for agencies to explore how user fees can help meet costs of ongoing operation and maintenance of infrastructure.</p>	<p>Given gaps in the 1995 Rules and the unclear legal status of ECOPs, sector institutions could consider either updating existing documents or superseding them with new comprehensive sanitation regulations under Water Act and Waste Management Act. This requires further consultation to determine the most appropriate option.</p> <p>A key challenge lies in implementing regulations. Resource constraints in terms of finance and human resources within key agencies create impediments to effective implementation of regulations. Work is needed to promote awareness of current provisions, support their implementation and undertake essential monitoring and compliance activities. (See notes on implementation with reference to institutional arrangements.)</p> <p>There is low level awareness of the existence or provisions of ECOPs beyond the National Environment Commission (NEC) (see the following reference to institutional arrangements).</p> <p>The prescriptive approach to technology selection (with networked sewerage systems or septic tanks possible options) described in the ECOP on Sanitation and Sewage Management in Urban Areas is unhelpful and contradicts the context appropriate approach advocated in Section 1 (see opposite), as it does not allow for adapting locally appropriate and innovative solutions, and positions onsite systems as interim solutions. This hinders efforts to properly manage and regulate onsite systems.</p> <p>To realise the potential of the Waste Management Act 2009 to provide a mechanism for regulating sludge management, it is essential the forthcoming 11th FYP Waste Management Regulation details implementation processes and compliance and enforcement mechanisms specifically focused on human waste, including sludge.</p> <p>The Environmental Discharge Standard 2010 fails to define standards for discharge from septic tanks. It would be helpful to define specific standards for discharge from septic tanks, to provide a benchmark for the performance of septic tanks.</p> <p>None of the current relevant laws and regulations mention the critical role of hygiene promotion to ensure service provision in urban areas achieves health outcomes.</p>
(iii) Institutional arrangements	<p>Roles and responsibilities of different agencies are defined in the Waste Prevention and Management Act 2009. The MoWHS and city corporations are the main agencies responsible for waste prevention and management in Thromdes. At the sub-national level, Dzongkhag Tshogdu and Gewog Tshogde supported by respective administrations are responsible for waste prevention and management, including human waste with guidance from the MoH.</p> <p>NEC is establishing a monitoring and compliance unit. If adequately resourced, it should help facilitate a shift from 'reactive enforcement' to 'proactive monitoring and compliance management' of environmental regulations.</p> <p>During the consultation process for this review, agencies expressed desire and intent to collaborate more closely on urban sanitation and hygiene, including potentially amending the Water Act to reflect sludge management.</p>	<p>The different institutional arrangements in place for urban areas of different sizes could create confusion for smaller, but growing towns as they transition from Dzongkhag Thromde A to B and to Dzongkhag Yenlag Thromde.</p> <p>In practice, while the NEC is broadly responsible for all environmental regulations, consultations with key informants suggested the focus had been on solid waste, rather than human waste management. A strengthened NEC focus on human waste would support more effective implementation of the existing regulatory framework.</p> <p>There is currently a gap in leadership on urban hygiene promotion. While the MoH has nominal responsibility for hygiene promotion for urban and rural areas, it views urban areas as primarily the jurisdiction of the MoWHS and city corporations. This reflects and reinforces the gap (described earlier) in legislation.</p> <p>There is low-level awareness of the existence or provisions of ECOPs beyond the NEC. Efforts are needed to ensure all relevant national and sub-national level agencies are familiar with ECOP provisions and equipped to support their implementation.</p> <p>There are multiple barriers related to the availability of skilled personnel to oversee and undertake sludge management activities. This is particularly the case for smaller urban centres, where few sludge treatment and disposal sites exist. This makes effective implementation of provisions from the ECOP on Sanitation and Sewage Management in Urban Areas challenging. A concerted focus on sludge management is needed at all levels to fill gaps in technical solutions and management capacity.</p>



Area of focus	Strengths	Gaps and opportunities
(iii) Institutional arrangements	<p>At the sub-national level, environment and health committees have assigned focal points from respective ministries to implement and monitor sanitation and hygiene promotion activities.</p> <p>The experience of Chhukha Sanitation Committee and development of local bylaws could provide valuable lessons for national and sub-national agencies seeking to strengthen legal and regulatory frameworks for sanitation in small towns.</p>	<p>There is opportunity for national level agencies to work more closely together on urban sanitation and hygiene, as practical challenges to date have prevented close engagement. This could be achieved, for example, through formalisation of the national stakeholder working group for WASH.</p> <p>There is interest from the government in working with the private sector and potential for private operators to fill critical service delivery gaps, such as in sludge management. However, opportunities are limited and few private service providers exist. As a result, there is a need to nurture private sector service providers if they are to play an effective role in urban sanitation.</p> <p>There is a risk associated with the bottom-up approach to planning, in that sanitation may not be prioritised by local planners in the context of competing priorities and a lack of knowledge and capacity to define the significance of sanitation.</p> <p>Financing arrangements are challenging, with key informants reporting more finance is needed to support effective programming, particularly for recurrent and capital maintenance costs. Regulations authorising the charging of tariffs in areas where central level systems do not exist, such as smaller towns, is not a viable option.</p> <p>The majority of allocated funds are for infrastructure development, with only a small portion for education and advocacy to promote behaviour change. For example, in Thimphu funds for sewerage network development do not include education and hygiene promotion.</p> <p>The distribution of finance between central and district levels is another challenge as legal and policy arrangements do not provide viable frameworks.</p>
(iv) Additional areas for consideration	<p>There is political will to promote sanitation at national and sub-national levels. This is a key strength as agencies work to build the legal and policy framework for urban sanitation.</p> <p>The current decentralised system of governance promotes local-level ownership and accountability.</p>	<p>Creating an enabling environment for greater private sector participation was expressed as a priority by key informants during the consultation process for this review.</p> <p>There is scope to draw from rural sector experiences on how CBOs (Community-based organisations) could play a role in urban areas, particularly with reference to health and hygiene promotion.</p> <p>There is a need to consider how best to ensure marginalised people living in temporary settlements have access to essential sanitation services.</p> <p>Laws and regulations relating to urban sanitation and hygiene do not account for the impacts of climate change on the sector. Such impacts need to be accounted for in planning and implementation of urban sanitation initiatives to build resilience and adaptive capacity.</p> <p>WASH in emergencies also needs consideration. National disaster management legislation and planning is underway and it would be beneficial to ensure it is considered in development of a policy framework for urban areas.</p> <p>There is scope to strengthen sector monitoring systems, to track progress in the extent and sustainability of services as well as assess performances of key sector agencies.</p> <p>While the goals of equity, accessibility and affordability are implicit within many of Bhutan's legal and policy documents, there is a need for greater guidance on how to ensure equity considerations are put into practice in urban environments.</p>

## Taking action – steps and roles identified at the inter-agency workshop

At the workshop on 4 April 2012, participants representing key agencies involved in urban sanitation and hygiene management discussed the draft review report and identified a number of high-level priority actions. These priorities and nominated lead agencies are detailed in Table 1.

Area of focus	Actions	Lead agency
<p>National Policy for Urban Water, Sanitation and Hygiene</p> <p>Development of a national policy for urban areas that is coordinated with rural policy, requires treatment systems, includes unserved vulnerable settlements and outlines tools for sanitation planning.</p>	<p>Formation of task force to oversee national policy development, including initiating all necessary processes for policy formulation including the Gross National Happiness Commission (GNHC) screening and national and sub-national consultations (by December 2012).</p> <p>Policy development will also take into account climate change adaptation measures and marginalised groups.</p>	<p>PPD, MoWHS to lead in broad consultation with all other stakeholders including NEC to develop a policy proposal for GNHC.</p>
<p>Review and reinforcement of current legal instruments</p>	<p>Developing performance-based sanitation rules and regulations and conducting awareness raising and sensitisation on current legal instruments. Includes reviewing and updating ECOPs.</p>	<p>PPD, MoWHS in coordination with NEC and Thromdes.</p> <p>NEC to revisit the ECOPs.</p>
<p>Strengthening institutional arrangements</p>	<p>Strengthen institutional capacity for hygiene promotion and behaviour change and take steps to integrate hygiene promotion with infrastructure programmes.</p> <p>Strengthen human resource capacity and resource allocation for sludge management, wastewater management and hygiene promotion.</p>	<p>MoH and MoWHS to lead in collaboration with relevant line agencies.</p>



# 1. Introduction

## Background and scope of the review

This review was undertaken as part of the Sustainable Sanitation and Hygiene for All in Small Towns (SSH4A in Small Towns) programme, managed by SNV Netherlands Development Organisation in collaboration with the MoWHS. The programme commenced in 2011 with the signing of an agreement between SNV and MoWHS and was developed over a two-year period as a pilot initiative. The goal of the programme was to enhance access to improved sanitation and hygiene practices and services in three small towns in Chukha district. The programme was implemented by Chukha Dzongkhag (Districts) and municipal corporations of the three towns under the guidance of sanitation committees. SNV and Department of Engineering Services (DES), under the MoWHS, are the key national level collaborators.

This review aims to explore the legal, policy and institutional arrangements guiding urban sanitation and hygiene, including a particular focus on the situation for smaller urban centres. For the purposes of this review, 'urban sanitation and hygiene' relates to human waste management, including the safe separation of faeces from humans and management of the entire waste stream from households through to treatment, transport and disposal or reuse. Although also relevant to urban sanitation and hygiene, for this review stormwater, solid waste and industrial effluent were not focused on. These areas are only mentioned when their regulatory regime overlaps with that governing management of human waste.

## Approach

The review included the following steps:

1. Desktop review of legal and policy documentation (January 2012)
2. Consultation with key informants (February 2012)
3. Analysis of information from the desktop review and consultation process with reference to principles and key areas of interest (as outlined later in this report) (February 2012)
4. Review and discussion of emerging findings during a participatory workshop with MoWHS (April 2012)
5. Integrating outcomes from the workshop and finalising the high-level review paper (April 2012).

The review was underpinned by the view that the ultimate objectives of urban sanitation and hygiene are to: (i) protect human health, (ii) protect the environment and resources and (iii) be affordable and accessible for all. Taking these objectives into account, legal and policy documents and information from consultations with informants were analysed with reference to a number of considerations and areas of interest. These areas of interest were identified by the consultants based on a review of developments, trends and current thinking about good practice in urban sanitation and hygiene globally, for example as described in the International Water Association Vienna Charter on Urban Sanitation (IWA 2008), the Global Analysis and Assessment of Sanitation and Drinking-Water (GLAAS) framework (WHO/UN-Water, 2010) and literature on enabling environments for sanitation and hygiene (for example, work by the World Bank Water and Sanitation Programme). Key considerations that provided a framework for analysis are summarised in Figure 1.

Across these aspects of sanitation and hygiene management, consideration was given to specific areas of interest as outlined in the Terms of Reference for undertaking this review. This includes the potential for harmonisation between rural and urban arrangements, provisions for any social inclusion mechanisms, private sector involvement, issues relating to peri-urban and informal or temporary settlements and the regulation of faecal sludge management..

**Figure 1: Considerations guiding the review of policy, legal and institutional arrangements for urban sanitation and hygiene**



- National level direction and **objectives** for the sector articulated in policies and/or strategies
- Principles and processes for **sanitation planning** including technology choice
- **Finance** and financial arrangements for urban sanitation and hygiene
- Clear articulation of **roles and responsibilities** for all aspects of urban sanitation and hygiene management (including recurrent operation and maintenance as well as capital maintenance)
- Relationships and **coordination** between sectors agencies and actors
- **Equity** consideration including affordability, accessibility and **community engagement** process
- **Environment** and resource implications of sanitation arrangements, including an integrated approach that Considers all waste streams and broader water resource management implications
- Sector **monitoring** including of service delivery and overall sector performance

## Structure of the review

This review briefly outlines the current context for urban sanitation and hygiene in Bhutan, including an overview of access to improved sanitation and existing sanitation systems. A review of the overall policy context is then provided, followed by analysis of legal and regulatory provisions and then discussion of institutional arrangements, at national and sub-national levels. Gaps, priorities and opportunities for strengthening policy, legal and institutional arrangements are identified throughout the text with key points of analysis and recommendations highlighted.



## 2. Context for urban sanitation and hygiene in bhutan

### Urban Bhutan

Although still a predominately rural country, Bhutan is experiencing rapid urbanisation with an annual urban population growth rate of 7.3% compared to a general population growth rate of 1.3% (National Urbanisation Strategy, 2008). It is predicted that by 2020 around half of the country's population will live in urban areas, up from around 30% (Jamtsho 2010). The country has 61 defined urban areas, including five major urban centres each with a population of more than 5,000 and 20 urban centres each with a population of 1,500-4,999. Within the 61 defined urban areas are 36 satellite towns each with a population of less than 1,500, the minimum criteria identified by the MoWHS (National Urbanisation Strategy, 2008), spread across Bhutan's 20 districts. The uncontrolled growth of satellite towns has been identified by the Royal Government of Bhutan (RGoB) as a pressing issue for the management of WASH, with the country paper prepared for SACOSAN III (RGoB, 2008) noting key concerns, including overloading of existing infrastructure and challenges in developing long-term projections and planning given the predictable growth.

In line with the Constitution of the Kingdom of Bhutan to provide democratic and accountable government for urban communities and ensure the provision of urban services in a sustainable manner, the Local Government Act 2009 (the LG Act) was enacted repealing the Thromde Act of the Kingdom of Bhutan 2007 and Bhutan Municipal Act of 1999. According to the LG Act 2009, Thromdes are classified as Dzongkhag Thromde and Dzongkhag Yenlag Thromde. Dzongkhag Thromde shall be further categorised as Thromde class A and Thromde class B. Classifications are based on total population and density, land area of the Thromde or Throm, revenue generated for maintenance of services, proportion of employment in non-primary activities and agricultural business activities as well as trade and commercial significance.

### Current sanitation infrastructure

Based on the most recent available WHO/UNICEF Joint Monitoring Programme (JMP) data (WHO/UNICEF 2010), 13% of people in urban areas in Bhutan lacked access to improved sanitation in 2008, with a 4% rate of open defecation. These figures place Bhutan 'mid-range' compared to neighbouring countries (ISF-UTS, 2011). Figures presented to SACOSAN III (RGoB, 2008) indicated that almost 60% of urban households used private flush toilets, around 20% used improved pit latrines and 15% shared flush toilets.

Beyond households, septic tanks and pit latrines are the dominant form of primary treatment of human waste in urban areas. Septic tanks treat blackwater (toilet waste). While regulations (1995 Rules) stipulate that black and greywater outlets should be connected to a municipal sewer line or septic tank, information from baseline research conducted by SNV suggests greywater is typically discharged directly into drains without treatment. A number of Bhutan's larger urban areas (Gelephu, Phuntsholing, Samdrupjongkhar and Thimphu) have some form of sewage treatment, such as treatment ponds and several examples of decentralised eco-line systems. However, sewerage connection rates are relatively low, as only a third of households in Thimphu are connected with the remainder relying on septic tanks and pits (Jamtsho, 2010). In smaller urban areas, household septic tanks are the only form of sewage treatment available.

In the four Thromdes, services are provided by city corporations, with emptying offered one to three times a year depending on the size of the septic tank. For households with water metres in these areas, sewer user charges account for 50% of water bills and cover these annual visits to transport pre-treated wastewater from septic tanks to central treatment facilities.

Proper management of septic tanks, with safe transport and disposal of sludge, is a growing concern for urban and peri-urban areas where connections to centralised wastewater treatment plants is not possible. According to key informants, septic tanks are rarely desludged routinely and often only when

they fail. Small towns and peri-urban areas also have little access to sludge treatment and disposal sites, resulting in sludge often being illegally disposed of in canals, landfill sites or sewer networks (where available in larger cities). This picture of challenges associated with septic tank management aligns with reviews of other Asian cities (AECOM and Sandec/Eawag, 2010).

Pit latrines, often prevalent in rural areas and some smaller semi-urban centres - particularly informal/temporary settlements, are not governed by standards. The MoH provides technical guidance for the construction of pit latrines on request, including identification of sites to prevent groundwater contamination and appropriate technology recommendations. Under the decentralised health delivery system, Basic Health Units (BHUs) are present at Gewog level and health workers in respective BHUs are responsible for sanitation and hygiene promotion. Typically a new pit is dug when pit latrines are full, depending on the availability of land.

With increasing access to sanitation product markets more households are opting for alternatives to pit latrines, such as flush systems with septic tanks. However, there are limited pit latrine and septic tank system options available in cases of smaller land holdings and where houses are more densely constructed. Key informant interviews identified few examples of communal septic tank systems. Communal systems have the potential to offer solutions for high-density areas such as temporary settlements. However, there are no formal provisions to support or regulate these systems.





### 3. Policy and strategy

Bhutan's rolling five-year plans set the overall direction for development of the country. Plans are constructed based on local priorities, submitted to the central government and integrated into a consolidated plan issued by the GNHC. The 10th FYP identifies urban sanitation infrastructure as a priority with targets to increase access to improved sanitation to close to 100% for rural and urban areas. The plan specifically identifies sanitation improvements as a key response to the rudimentary quality of urban infrastructure and services in several newer townships. It promotes decentralisation of urban services management to “enhance the efficiency and effectiveness of urban management” and notes intent to grant autonomous status to municipalities based on their respective capacities to undertake urban service delivery functions. Although autonomous status has been granted to all four larger cities (Gelephu, Phuntsholing, Samdrupjongkhar and Thimphu), it is important to note that agencies in Gelephu and Samdrupjongkhar need capacity building before taking up functions without backstopping and assistance from the MoWHS

While the current FYP links sanitation with health and recognises the important role of sanitation in disease prevention, it does not include references to the critical aspect of hygiene promotion. Furthermore, while sanitation is identified as a priority, no guidance is given on how sanitation improvements can be achieved. Moreover, the national targets for access to sanitation fail to reference the hygienic use of facilities and sustained behaviour change.

The 11th FYP is currently in development and key informants suggested it will focus on infrastructure development, including targeting 100% coverage of sewerage networks in Thromde class A cities and constructing centralised wastewater treatment plants. While these targets offer more specific guidance as to the overall direction of sanitation infrastructure provision in the country, establishing prescriptive objectives that prioritise centralised sewerage systems may be a barrier to innovation and an adaptive, context-driven approach. This is discussed further in this report with reference to the ECOP for Sanitation and Sewage Management in Urban Areas. As with the 10th FYP, hygiene promotion is not emphasised within the plan.

*It would be beneficial for key national level strategies to include principles and objectives to guide municipalities in their efforts to improve urban sanitation service delivery as well as hygiene promotion. It is also important that the direction given is not overly prescriptive, to ensure there is space for innovation, exploration of alternatives, participatory decision-making and the selection of technologies best suited to local conditions.*

*Hygiene promotion is critical if the health benefits of sanitation are to be achieved. Including reference to the important role of hygiene promotion in the five-year planning process and documents would reflect this and encourage municipalities to ensure hygiene promotion is part of their approach.*

In the health sector, the National Health Policy 2011 sets the vision, aspirations and implementation arrangements for the health sector including disease control, medical care and partnerships. Policy-makers' one reference to urban sanitation notes intent to strengthen links between the MoH and other stakeholders with regard to urban water supply and sanitation. The policy emphasises of 'health promotion' as important for the prevention of non-communicable diseases. However, no reference is made to the role of health or hygiene promotion in preventing communicable diseases including those associated with poor sanitation and hygiene.

*The intent expressed in the National Health Policy to strengthen collaboration between the MoH and other agencies with reference to urban sanitation presents an opportunity for the MoH and MoWHS to build relationships, share information and resources and undertake collaborative planning.*

*There is scope for the National Health Policy to emphasise the role of hygiene promotion in preventing communicable (as well as non-communicable) diseases and to identify health-related measures for progress that go beyond the access indicator.*

Focusing specifically on sanitation, a Royal Decree was issued in 1992 stressing the importance of having a household latrine and declaring that every household is responsible for latrine construction and upkeep. Issued during the 7th FYP, the Decree set the direction of government policy for rural and urban areas, committing the government to support and invest in sanitation. A key provision is the identification of poor maintenance of facilities as a critical challenge and the removal of subsidies for latrine construction, other than provision of necessary non-local materials. The Decree also states that caring for and maintaining toilet facilities is the responsibility of all citizens and identifies investment for the rehabilitation of existing systems as a priority.

While the Decree establishes national support for sanitation service improvements and outlines some key policy directions, there is no high-level sanitation, hygiene or water policy or strategy focused specifically on urban areas. While various rules, laws and regulations (discussed later in this report) provide guidance on various aspects of urban sanitation management and service delivery, the absence of an overall sector policy or strategy means there is a gap in terms of coherent and consolidated principles as well as objectives and processes to guide central and district agencies. A policy or strategy for urban sanitation and hygiene would bridge the gap between the setting of priorities through five-year plans and implementation of initiatives by MoWHS, district governments and municipalities.

*Establishing a national policy for urban sanitation and hygiene is a priority. A national policy would support sector development by setting out principles, objectives and processes for service provision, hygiene promotion and infrastructure investment and management. It could also strengthen arrangements in the critical area of sanitation planning, to guide an integrated approach to the consideration, selection and implementation of appropriate service delivery models.*

In developing a national policy to guide urban sanitation and hygiene, agencies can draw on rural sector experiences. The Rural Water Supply and Sanitation (RWSS) sector policy 2002 and supporting Background Document 2001 sets out RGoB goals and strategies for future development of rural water supply and sanitation in Bhutan. The primary objective of the RWSS policy is to ensure the achievement of the vision: “Ensuring that present and future generations of rural residents in Bhutan have access to adequate, safe and affordable water supply and sanitation facilities while ensuring that poorer, vulnerable and marginal parts of the population are not excluded from these benefits.”

The policy provides a clear direction to improving access to safe drinking water. However, a review of the RWSS policy recognised that further guidance was needed with reference to sanitation and hygiene. The MoH is reformulating the policy to provide guidance on sanitation, including the addition of three further chapters in the background document.

*In developing a national policy for the urban sector, agencies can learn from the experience and provisions of the rural policy, particularly in ensuring the sanitation and hygiene (as well as water) are given priority and that practical guidance is provided on the roles and responsibilities of different agencies around hygiene promotion.*

Another overarching policy document is the Water Vision and Policy 2003 that is based on five principles: environmental conservation, integrated water resource management, sustainable use of water resources, economic efficiency as well as equity and good governance. The water vision and policy states the government's national target of 100% coverage of safe drinking water and sanitation. From a rights perspective, the vision affirms the right to safe, affordable and sufficient quantity of water for personal consumption and sanitation.

*The vision highlights and affirms the commitment of the government to achieving 100% coverage of safe drinking water and sanitation, which is also aligned with the Millennium Development Goals.*

The MoWHS' under development Human Settlement Policy will also be relevant to urban sanitation and hygiene, with guidance on management of human settlements in urban and rural areas.

## 4. Laws and regulations

Laws and regulations relevant to urban sanitation and hygiene include:

- Code of Practice for Plumbing 1984
- Rules for Water and Sanitation 1995
- Bhutan Municipal Act 1999 (superseded by the Local Government Act 2009)
- Environmental Assessment Act 2000
- Environmental Code of Practice for Sanitation and Sewage Management in Urban Areas 2000
- Bhutan Building Rules 2002
- Environmental Code of Practice for Stormwater 2004
- National Environment Protection Act 2007
- Land Act 2007
- Thromde Act of Bhutan 2009 (superseded by the Local Government Act 2009)
- Waste Prevention and Management Act 2009 and associated regulation (forthcoming)
- Local Government Act of Bhutan 2009
- Thromde Rules 2010
- Environmental Discharge Standard 2010
- Water Act 2011.

A summary of the objectives and provisions of various policies, rules and regulations is provided in Annex 2 and key aspects are discussed in this and the following section where laws specifically relate to the roles, responsibilities and authority of institutions at national or sub-national level.

### Rules for water and sanitation

The 1995 Rules for Water and Sanitation remain the most recent legal directive governing sanitation in urban areas and is referred to as the primary guiding document within the current FYP. The 1995 Rules lay out standards and responsibilities for water and sanitation management in urban areas, including delineating responsibilities between city corporations and property owners.

The management framework outlined by the 1995 Rules demonstrates a number of strengths:

- The provision that household wastewater should be managed separately from stormwater
- The 1995 Rules stipulate that all household wastewater must be treated, including toilet water (blackwater) and sullage (greywater) defined within the 1995 Rules to include waste from baths, basins, sinks and similar appliances
- Clear delineation of roles and responsibilities between property owners/residents and city corporations, including for the operation, maintenance and repair of infrastructure.
- There are also a number of aspects of the 1995 Rules and their application that present challenges for the urban sanitation and hygiene sector:
- The sewerage provisions of the 1995 Rules only apply to “those urban areas in which sewerage facilities are available”, as described in Section 1 of the Drainage and Sewerage Requirements. Many provisions of the 1995 Rules do not apply to smaller towns and



emerging urban areas. For these areas, sewerage facilities described in the 1995 Rules may not be a reality for the foreseeable future.

- There is no mention in the 1995 Rules (or the ECOP on Sanitation and Sewage Management for Urban Areas) of cluster scale wastewater treatment systems, such as communal septic tanks. Reports from key informants indicated that communal septic systems or other decentralised wastewater treatment systems could be installed in new development areas and there is a need for guidance on appropriate construction and management of these systems when identified as the most appropriate solution.
- While the 1995 Rules' requirement that greywater be treated along with blackwater is encouraging, it is poorly implemented and greywater is typically discharged untreated into drains. In working to improve compliance with the 1995 Rules around greywater treatment, the requirement that all wastewater be treated together may be unrealistic as existing systems may not be able to deal with the additional capacity. Moreover, it could deter exploration of potentially cost-effective and ecologically beneficial wastewater treatment systems that treat black and greywater separately.
- Finally, key informants reported low public awareness of the 1995 Rules and their potential benefits in guiding arrangements for larger cities and smaller emerging centres. Agencies, such as those at municipal level, must engage with the framework outlined in 1995 Rules to consider how provisions may be relevant to management of sanitation in newer urban areas.

*There is a need to consider the relevance and application of the 1995 Rules for small and emerging urban centres, where sewerage facilities do not exist. The 1995 Rules contain a number of provisions that could apply to the management of onsite systems, complementing the provisions of the ECOP on Sanitation and Sewerage Management in Urban Areas. It would also be helpful to explore how specific provisions of the 1995 Rules could be adapted to create more space for exploration of alternative technological solutions for urban sanitation, including cluster scale decentralised systems such as communal septic tanks.*

*Given gaps in the 1995 Rules and the unclear legal status of ECOPs (discussed later in this report), sector institutions could consider either updating existing documents or superseding them with new comprehensive sanitation regulations under Water Act and Waste Management Act. This requires further consultation to determine the most appropriate option.*

Onsite sanitation facilities are also governed by the Bhutan Building Rules 2002 and the Code of Practice for Plumbing, which regulate the design and construction of onsite sanitation facilities as well as connections to mains sewerage systems.

## Environmental laws and regulations

A number of laws and regulations focused on protection of the environment and water resources are relevant to the management of urban sanitation and hygiene including the Water Act 2011, Waste Management Act 2009 and various ECOPs.

1. Three policies are: i) National Policy for Safe Water Supply and Sanitation 1998, ii) National Policy for Arsenic Mitigation and Implementation Plan 2004 and iii) National Water Policy 1999.  
2. Five strategies are: i) National Sanitation Strategy 2005, ii) Pro-Poor Strategy for Water and Sanitation Sector 2005, iii) National Cost Sharing Strategy for Water Supply and Sanitation in Bangladesh 2011, iv) National Hygiene Promotion Strategy for Water Supply and Sanitation in Bangladesh 2012 and v) National Strategy for Hard to Reach Areas and People of Bangladesh 2012.

## Water resources

The Water Act 2011 details provisions to protect water resources and establish institutions for water management. Principles enshrined in the act include universal access to water, integrated water resource management, polluter/user pays, community-based management and the right to information. The Water Act establishes the NEC as the agency with high-level oversight with specific implementation undertaken by various other agencies (as declared competent authorities under the Act). Among other things, the Act permits competent authorities to collect wastewater service fees. It also establishes that Dzongkhag Environment Committees shall function as Water Management Committees (Section 30), but does not make clear what the roles, responsibilities and powers of Water Management Committees are. The NEC is currently developing Water Rules to support the Act, which may include more details on roles and responsibilities.

## Waste management (including human waste)

The Waste Prevention and Management Act 2009 is based on principles of “reduce, reuse and recycle”. It requires all waste to be properly managed to maintain a healthy environment, with waste explicitly defined to include human waste. This implies that improper management of onsite sanitation systems that result in environmental pollution could potentially be in violation of the Waste Prevention and Management Act 2009.

Under the Act, the NEC is the main regulatory authority and its roles include determining specific responsibilities of agencies in waste management. The MoWHS and city corporations are responsible for waste management in defined urban areas, with District Administration (Dzongkhags, Tshogdus) responsible in all other areas. The Act gives the MoH a role in guiding management of human waste in rural areas, but not urban as its role in urban sanitation unclear (see the following discussion of institutional arrangements).

Draft regulations guiding implementation of the Act and a system of penalties for enforcement are in the pipeline. The initial draft failed to build on the inclusion of human waste within the Act and provide guidance on specific implementation and enforcement, other than to prohibit co-disposal of human and other waste. Furthermore, there is a need for guidance on treatment and productive use of sludge. This issue needs urgent consideration to guide authorities seeking to establish sludge recycling plants, such as in Chukka.

*The Waste Prevention and Management Act 2009 offers a potential mechanism for enforcing proper management of human waste, particularly from onsite sanitation systems. To make this possible, it is essential that the forthcoming, 11th FYP Waste Management Regulation details implementation processes and compliance and enforcement mechanisms specifically focused on human waste, including sludge.*

## Environmental codes of practice

A series of ECOPs was developed under the Environmental Assessment Act 2000, including ECOPs for Sanitation and Sewerage Management in Urban Areas, Stormwater Management, Solid Waste Management and Utilities. ECOPs form part of the Urban Environmental Assessment Guidelines developed by the NEC. They are overseen and implemented by the NEC in collaboration with other agencies deemed to be ‘competent authorities’ (as described in the Codes). ECOPs are guidelines only, however approvals under the Environmental Assessment Act 2000 can cite these guidelines and make practices mandatory.

*The legal status of ECOPs, including the ECOP for Sanitation and Sewerage Management in Urban Areas, is unclear. ECOPs have ‘guideline’ status and are not legally enforceable unless a specific*



*provision makes ECOP compliance mandatory as part of conditions attached to development consent granted under the Environmental Assessment Act 2000. For onsite systems attached to existing buildings and therefore not subject to any development approval process, the ECOPs offer guidance only. This is appropriate in the current context, where broad compliance with certain provisions is not be possible, in the case of no sludge treatment sites existing for safe disposal of sludge. However, there is an opportunity to consider transitioning the guidelines into formal regulations so their legal status is clear to allow for compliance and enforcement.*

The Environmental Code of Practice for Sanitation and Sewage Management in Urban Areas (2000) details specific provisions describing how management of human waste in urban areas should be undertaken to safeguard human health and protect the environment. Criteria for the selection and management of sewage management technology and processes to be followed in establishing systems are described. Importantly and in line with the emphasis on developing sewer networks in the forthcoming 11th FYP, the 2000 ECOP identifies the goal of all urban areas having networked sewer systems. Septic tanks and pit latrines are positioned as acceptable interim solutions for areas where networked systems are not available.

*The prescriptive approach to technology choice, which identifies networked sewer systems as the ultimate goal for all urban areas, is unhelpful for a number of reasons. Networked sewer systems and centralised wastewater treatment plants are appropriate solutions for certain areas, but not necessarily for all. A prescriptive approach to technology selection means potential alternatives more locally appropriate, cost-effective and within local authorities' technical and management capacity in human resource and financing terms are not considered. Furthermore, by positioning septic tanks as interim solutions only used until networked systems are constructed, there is a risk that proper regulation and implementation of measures to ensure safe management of septic tanks are not prioritised.*

*Principles enshrined within various legislative documents relevant to urban sanitation endorse participatory decision-making processes and the principle that technology choices and systems should best meet the needs of local contexts. For example, Section 1 of the ECOP on Sanitation is focused on research, surveys and guides a context appropriate evidence-based approach to determining the most appropriate solution for different urban areas. Using this as a foundation, the ECOP and FYP could allow for a broader suite of approaches and options to be considered. To support implementation of this approach, there is also a need to explore the range of appropriate technical solutions and develop guidance material. This would support sanitation planners and those responsible for constructing and managing systems at various levels in making informed choices.*

The ECOP for Sanitation includes provisions relating to septic tank construction and management, including safe disposal of effluent. Under the ECOP and as outlined in the Rules for Water and Sanitation (Section 3.2), property owners and building contractors are responsible for tank construction and management of sewage. Various provisions outline requirements for the positioning of septic tanks to facilitate safe and regular desludging, with a recommendation that desludging is undertaken every three to five years (Section 10). Section 7 provides that effluent should be disposed of in a mains sewerage system if one exists. For areas without, effluent must be taken in vacuum truck(s) to a designated treatment centre or site approved by the urban authority (municipal council or district authority), before disposal at an approved landfill site (Section 10). The ECOP also notes that where no treatment plant exists, excreta can be buried in the ground (Section 8). Guidance to promote safe desludging practices is provided (Sections 8 and 10). Groundwater protection is also addressed,

with a requirement that groundwater be 2m below the bottom of a pit or drainage trench throughout the year or if this is not possible, a 2m sand or loam layer between the pit and the groundwater table must be inserted (Section 16).

*The ECOP for Sanitation and Sewage Management in Urban Areas provides comprehensive guidance around the management of onsite systems, in particular septic tanks and sludge management. The challenge, as identified during consultation with key informants, lies in implementation of the Code. There is low-level awareness of the existence or provisions of the Code beyond the NEC. For smaller urban centres, there are also multiple barriers related to the availability of skilled personnel to oversee and undertake sludge management activities and the fact that few, if any, sludge treatment and disposal sites exist.*

Complementing the ECOP for Sanitation and Sewage Management in Urban Areas, is the ECOP for Stormwater (2004). The key provision of this latter ECOP relevant to management of human waste is that stormwater should be separated from sewage, in line with international best practice in urban wastewater management.

Underpinning the various environmental regulations is the Environmental Discharge Standard 2010, which sets performance-based water quality standards for ambient water quality, industrial effluent and effluent from sewerage treatment plants. There is potential for this standard to guide technology selection by establishing performance-based, rather than prescriptive standards. However, the current applicability of the standard is limited as it fails to define standards for discharge from septic tanks.

*While it is important to create opportunity within legal arrangements for urban authorities to consider a broad suite of sanitation solutions rather than one technological approach, there is also a need to provide guidance on what solutions would be acceptable. The standards for sewerage effluent outlined in the Environmental Discharge Standard 2010 could be referred to in other legal documents, establishing performance benchmarks to inform technology selection.*

*It would be helpful to define specific standards for discharge from septic tanks, to provide a benchmark for the performance of septic tanks.*



## 5. Institutional arrangements

This section provides an overview of institutional arrangements for management of urban sanitation and hygiene at national and sub-national levels and considers the private sector's role as well as responsibilities of individual households. A summary of the roles and responsibilities is provided in Annex 2, with key aspects and analysis of gaps and opportunities included in this section.

### National level

National level agencies with urban sanitation and hygiene roles include the MoWHS, MoH and NEC.

The MoWHS is the lead agency for formulating strategies and policies for human settlements across Bhutan. Within the MoWHS, two departments are central to urban sanitation and hygiene management - the DES and the Department of Human Settlements (DHS). These departments were previously the Department of Urban Development and Engineering Services and were recently restructured into two distinct units. The DES has national level responsibility for urban sanitation planning and policy and responsibilities include designing urban water and sanitation programmes and providing technical support to district administrations for implementation.

The NEC is responsible for developing policies, plans and guidelines for environmental protection. NEC roles and responsibilities are detailed in the National Environment Protection Act 2007, which outlines a rights-based approach to environmental protection, stating that people in Bhutan have a fundamental right to a safe and healthy environment. NEC functions include determining the roles and responsibilities of national, district and local authorities in environmental protection. The NEC is also responsible for implementing the National Environment Protection Act 2007, Environmental Assessment Act 2000 and related ECOPs as described earlier in this report, the Environmental Discharge Standard 2010 and the Water Act 2011.

*In practice, while the NEC is broadly responsible for all environmental regulations, consultations with key informants suggests the focus has been on solid waste, rather than human waste management.*

The MoH is the lead agency for WASH in the country. It is the national lead across rural and urban areas for health, which includes hygiene education and awareness campaigns. It also oversees the public health laboratory responsible for water quality monitoring. Within the MoH, the Public Health Engineering Department (PHED) has primary responsibility for rural WASH programming, including policy and planning formulation, technical design, securing funding and human resources support, and facilitating technical training. The newly renamed Health Promotion Division has primary responsibility for communications, health promotion and behaviour change programmes.

*While the MoH has nominal responsibility for hygiene promotion for urban and rural areas, it views urban areas as primarily the jurisdiction of the MoWHS. As a result, there is a gap in institutional leadership around hygiene promotion in urban areas, which reflects and reinforces the gap (described earlier) in legislation.*

Coordination between national agencies to identify potential overlaps and fill gaps could be improved. While there is intent to collaborate to address practical constraints, it has proved challenging to date. The consultation process identified relationship building and coordination as of significant interest to stakeholders in the sector.

*There is opportunity for national level agencies to work more closely together on urban sanitation and hygiene. While desire and intent to collaborate was expressed during consultations, practical challenges prevent close engagement. MoWHS staff have little time to engage in relationship building across agencies. Building and nurturing relationships and developing mechanisms and triggers for communication across agencies would support improved coordination.*

## Sub-national level

At sub-national level, institutional arrangements for urban areas differ according to the classification of towns, as described earlier in this report. Autonomous or partly autonomous city corporations exist in Bhutan's two largest cities Phuentsholing and Thimphu. All Thromdes (urban centres) are governed by the Thomde Tshogde (Municipality committee), which receives administrative and technical support from central government. Thromde Tshogdes are the highest decision-making body of the Dzongkhag Thromde and consist of seven to 10 members with Thrompon (Mayor) the chairperson. According to the LG Act (described earlier), Thromde Tshogdes are responsible for formulating development policies and priorities, including land use and local area development. They are responsible for formulating and enforcing rules that protect the health, safety and well-being of residents. The financial responsibility of the Tshogde is to review and approve annual budgets for submission to the Ministry of Finance (MoF). It has authority to expend budget funds, grants, local fees and service charges. It is important to highlight that except for Phuentsholing and Thimphu (where city corporations function autonomously), all other Thromdes are in transition regarding financial autonomy.

In the case of smaller towns (Class B and Yenlag Thromdes), sanitation and hygiene is the responsibility of either the Dzongkhag or Gewog administrations as decided by government. Dzongkhag administrations are responsible for implementing programmes under the overall direction of central agencies, with technical support from the MoWHS.

Although the LG Act clearly states the prerequisites for the establishment of Throm, there are gaps in the administration and management of municipal services, including sanitation. According to the Act, local governments shall comprise of Dzongkhag Tshogdu, Gewog Tshogde and Thromde Tshogde and be supported by central government, including through provision of technical advice. During interviews with key informants, concerns were identified relating to the capacity of local administrative bodies to effectively plan, implement and monitor sanitation and hygiene initiatives. The availability of skilled personnel was identified as a key constraint and the multiple responsibilities of Dzongkhag level administration was identified as a potential barrier to prioritisation of sanitation and hygiene.

*The multiple responsibilities of local agencies can mean that sanitation and hygiene may not receive adequate attention in a context of many competing priorities and a shortage of skilled personnel.*

Human resource capacity was identified by key informants as a significant challenge for the urban sanitation and hygiene sector, particularly at sub-national level. Local engineers are responsible for many areas with sanitation just one part of their work and this means it is difficult for sanitation initiatives to receive priority if there is a lack of expressed demand. Particular challenges relating to human resource capacity and other aspects of institutional coordination identified during the consultation process include:

- A lack of ownership of sewage treatment facilities by local authorities (in the case of larger cities)
- High turnover of staff managing facilities

- A lack of available personnel with necessary technical capacity to undertake routine maintenance
- Limited central level technical support and routine monitoring
- Minimal collaboration among stakeholders for planning and implementation
- A narrow national level sanitation planning focus
- Limited knowledge and experience sharing among institutions.

*The lack of skilled personnel, particularly at sub-national level, is a critical constraint to development of strong institutions that can drive and sustain progress in urban sanitation and hygiene. Developing a stronger skilled workforce for the sector is a long-term process. In the short term, it would be helpful for institutions to identify initial steps for building the skills of staff and ensuring that knowledge and skills are shared across teams and agencies to promote a more resilient human resource base. There is also opportunity for agencies in the sector to be more active in sharing knowledge and experience and to undertake collaborative planning.*

*Over the longer term, national agencies could consider working with existing training and research institutes to encourage and support their engagement in the WASH sector, working collaboratively to train national, district and municipal level personnel in sanitation management. This could include, for example, updating curriculum for existing engineering courses and prioritising sanitation management in scholarships.*

One example worth noting is that of the Chhukha Dzongkhag Sanitation Committee. Development activities in three small towns – Chhukha, Tsimlakha and Tsimakha – were held back due to delays in receiving ‘town’ categorisation, related to geographical terrain, administrative constraints and plans to relocate. To address the growing need for sanitation services, representatives of these towns formed a sanitation committee with the endorsement of the Gewog Tshogde – the highest decision-making body in the Gewog. Guided by a TOR, the sanitation committee is now taking an active role in planning services for sanitation and waste management.

## Financing urban sanitation and hygiene

Capital financing for urban sanitation infrastructure initiatives is typically provided by the central government or donor agencies (for example the Asian Development Bank (ADB) recently financed work in Thimphu). There are currently two significant donor-assisted urban area projects in Bhutan:

1. The ADB supports the Urban Infrastructure Project 2011-2015, which includes work in Nganglam/Rinchenthang, Phuentsholing, Samdrup Jongkhar and Thimphu
2. The World Bank supports the Bhutan Urban Development Project Phase II August 2010 to July 2015 (Dechencholing and Langjophaka, Thimphu North). This initiative includes roads, drainage, street lighting and water supply.

Beside the centrally allocated budget, in Thimphu the city corporation has financial autonomy to mobilise grants for any development activity. Loans need to be approved by the MoF and GNHC.

One of the major concerns expressed during key informant interviews regarding financing was recurring costs of sanitation facilities. Currently, only households connected to the water supply system with water metres are charged user fees for sewage management (50% of the water bill). For other households, there are no waste management charges. In the case of Thimphu, the fee collected

by the city corporation is directly deposited with the government. Agencies responsible for ongoing operation and management of systems face challenges related to financing ongoing recurrent costs as well as capital maintenance and asset replacement costs.

These initiatives are focused on Bhutan's larger cities and key informants reported significant gaps in financing and recurrent costs for infrastructure in smaller towns and emerging urban areas.

*Key informants reported that more finance was needed to support effective programming, particularly for recurrent and capital maintenance costs. Regulations authorise the charging of tariffs, but this is not a viable option in places where central systems are not present such as small towns.*

*The majority of allocated funds is for infrastructure development, with only a small portion for education and advocacy to promote behaviour change. For example, in Thimphu funds for sewerage network development do not include education and hygiene promotion.*

*The distribution of finance between central and district levels is a further challenge and legal and policy arrangements do not provide a framework to address this.*





## 6. Additional considerations

The analysis in the earlier segment of this report focuses on the content of laws and regulations as well as existing institutional roles and responsibilities, detailing key provisions and suggestions for strengthening such arrangements. The review also identified a number of considerations important to urban sanitation and hygiene management that appear to be absent from current arrangements and should be considered as the sector adapts and develops its legal framework. They include:

- Guidance on **private sector participation** is largely absent from current policies, laws and regulations. Creating an enabling environment for greater private sector participation was expressed as a priority by key informants during the consultation process.
- The role of **CBOs** in citizen engagement and policy advocacy is not reflected in service delivery institutional arrangements and policies. There is scope to draw from rural sector experiences to consider how CBOs could play a role in urban areas, particularly with reference to health and hygiene promotion.
- **Marginalised people** living in **temporary settlements** are not covered by current arrangements and there is a need to consider how best to ensure people living in these communities can access essential sanitation services.
- Laws and regulations relating to urban sanitation and hygiene do not account for the impacts of **climate change** on the sector and fail to consider strategies for building resilience and adaptive capacity. Climate change impacts need to be accounted for in planning and implementation of urban sanitation initiatives to select resilient infrastructure and manage likely variabilities in the availability of water resources seasonally and over the long term.
- The critical role of **WASH in emergencies** is also absent from policy and legal documents. This was raised in the process of developing the rural WASH policy and is now included as a strategic intervention under the disaster management guidelines. National disaster management legislation and planning is underway and it would be beneficial to ensure it is considered in development of a national policy for urban areas.
- There is scope to strengthen **sector monitoring systems**, to track progress in terms of the extent and sustainability of services, encompassing all aspects from access to effluent quality as well as assess the performance of key sector agencies. Sector agencies are encouraged to work towards the establishment of performance indicators and a monitoring system to track institutional performance and identify areas in need of support.
- While the goals of **equity, accessibility and affordability** are implicit within many of Bhutan's legal and policy documents, there is a need for greater guidance on how to ensure equity considerations are put into practice in urban environments.

## 7. Taking Action – Outcomes of Workshop Focused On Draft Review

At the workshop on 4 April 2012 in Thimphu, participants representing key agencies involved in urban sanitation and hygiene management discussed the draft review report and identified a number of high-level priority actions. These priorities and nominated lead agencies are detailed in Table 1.

**Table 1: Action and Agency Roles**

Area of focus	Actions	Lead agency
<p>National Policy for Urban Water, Sanitation and Hygiene</p> <p>Development of a national policy for urban areas that is coordinated with rural policy, requires treatment systems, includes unserved vulnerable settlements and outlines tools for sanitation planning.</p>	<p>Formation of task force to oversee national policy development, including initiating all necessary processes for policy formulation including GNHC screening and national and sub-national consultations (by December 2012).</p> <p>Policy development will also take into account climate change adaptation measures and marginalised groups.</p>	<p>PPD, MoWHS to lead in broad consultation with all other stakeholders including NEC to develop the policy proposal for GNHC.</p>
<p>Review and reinforcement of current legal instruments</p>	<p>Developing performance-based sanitation rules and regulations and conducting awareness raising and sensitisation on current legal instruments. Includes reviewing and updating ECOPs.</p>	<p>PPD, MoWHS in coordination with NEC and Thromdes. NEC to revisit the ECOPs.</p>
<p>Strengthening institutional arrangements</p>	<p>Strengthen institutional capacity for hygiene promotion and behaviour change and take steps to integrate hygiene promotion with infrastructure programmes. Strengthen human resource capacity and resource allocation for sludge management, wastewater management and hygiene promotion.</p>	<p>MoH and MoWHS to lead in collaboration with relevant line agencies.</p>

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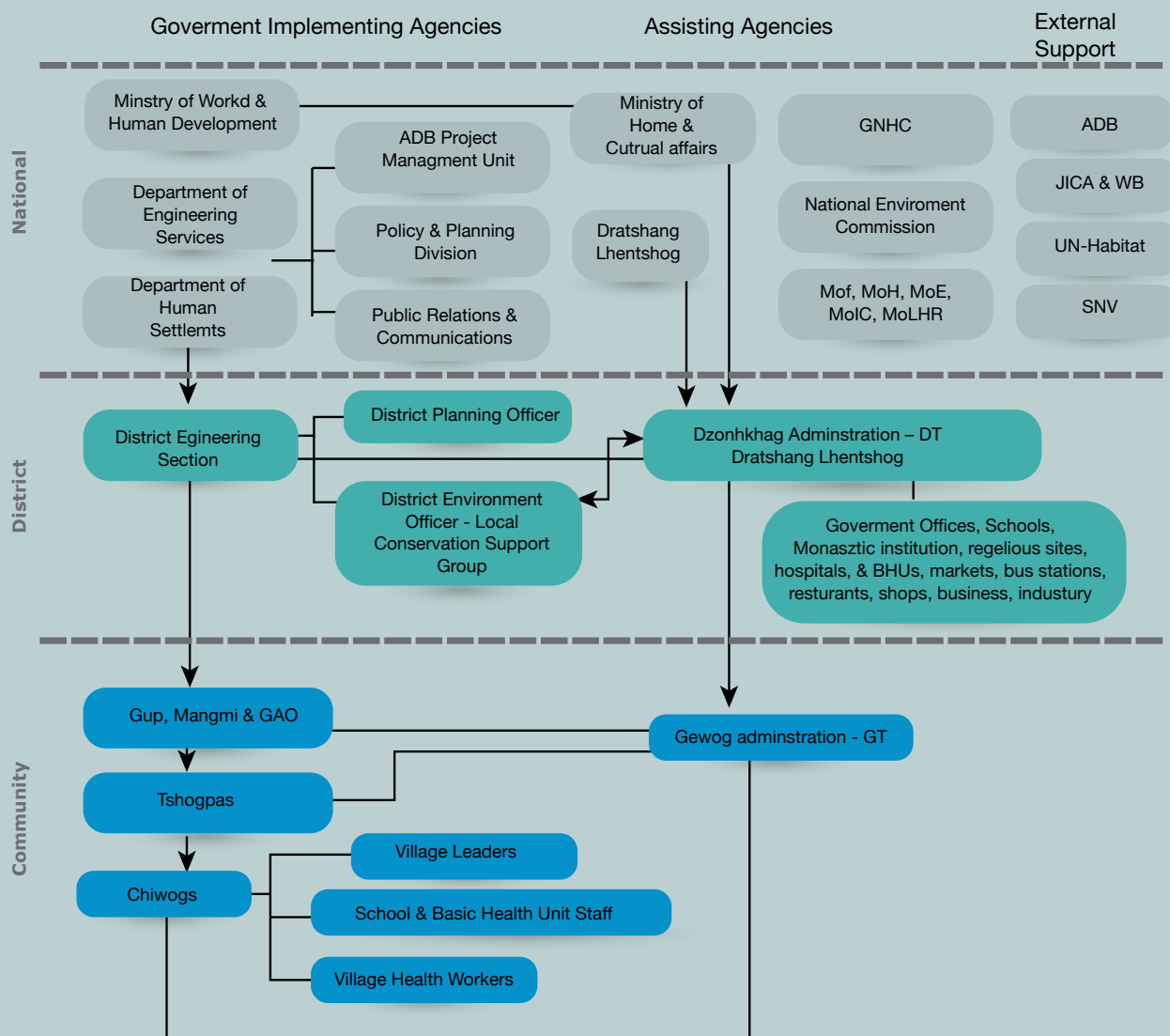
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# Annex 1: Stakeholder map



# Annex 2: Summary of legal and institutional arrangements

## Agencies and roles

Table 2 provides an overview of key actors and agencies and their roles and functions in managing urban sanitation and hygiene, with a focus on arrangements for small towns.

**Table 2: Agencies and roles in urban sanitation and hygiene**

Agency/Actor	Roles and functions in urban sanitation and hygiene
Property owner/householder	Responsible for installing and maintaining toilet(s) and for construction of septic tank(s) with soakpit(s) or drainage tank(s) (if connection to a sewerage system is not possible).
Ministry of Works and Human Settlements	Lead agency for formulating strategies and policy for human settlement across Bhutan.
Department of Engineering Services (previously the Department of Urban Development and Engineering Services) (within MoWHS)	Key department within MoWHS with national level responsibility for planning and policy related to urban sanitation. Responsibilities include design of urban water and sanitation programmes and providing technical support to district administrations for implementation.
Department of Human Settlements (within MoWHS)	Lead agency for planning and formulating strategies and policies for human settlements in urban and rural areas, including aspects of sanitation.
National Environment Commission	Agency responsible for developing policies, plans and guidelines for environmental protection. Functions established by the National Environment Protection Act 2007 include determining the roles and responsibilities of national, district and local authorities in environmental protection. Responsible for implementing the National Environment Protection Act 2007, Environmental Assessment Act 2000 and related ECOPs, Environmental Discharge Standard 2010 and Water Act 2011 as well as finalising the Waste Management Regulations which will include fines applicable to sludge disposal.
Public Health Engineering Department	Department within the MoH responsible for rural water, sanitation and hygiene, including policy and planning formulation, technical design, securing funding, human resource support and facilitating technical training.
Dzongkhag Administration	District administration responsible for implementing urban water and sanitation projects designed by and with technical support from the DES. Under the National Environment Protection Act 2007, Dzongkhag Environment Committees have delegated responsibility to carry out local environmental functions.
Municipal Councils	Roles in development approval and certification, including issuing occupancy certificates for newly constructed houses verifying construction of sewage solutions, typically adequate septic tanks and soak pits.
Municipal Corporations	MCs have been established in Gelephu, Phuentsholing, Samdrupjongkhar and Thimphu. MCs are responsible for local service provision and implementation of national policies, with ministerial support. In other urban areas, MCs have yet to be established, with the district administration taking on similar roles under the authority and guidance of Dzongkhag Administrations.
Ministry of Communications	Drafted the Water and Sanitation Rules 1995. The Department of Urban Development and Housing, within the Ministry of Communications, is responsible for implementing the Bhutan Building Rules 2002.
Competent Authorities	Legislation declares agencies, including those in this table, as competent authorities for the purposes of implementing, monitoring and enforcing provisions of Acts.

## Legal arrangements

Table 4 details key legal and policy documents, providing a brief overview of their scope and key provisions relating to urban sanitation and hygiene.

**Table 4: Summary of laws and regulations relevant to urban sanitation and hygiene**

Legal or policy document	Scope and key provisions
Water and Sanitation Rules 1995	Sets standards and details responsibilities for management of water and sanitation in urban areas, including delineating responsibilities between city corporations and property owners.
Bhutan Municipal Act 1999	Provides for the establishment and details the functions of MCs, including solid waste management, health awareness campaigns, public conveniences and drinking water supply, drainage and sewerage.
Environmental Assessment Act 2000	Establishes processes and authorities for environmental assessment of proposed developments. The primary agency is the NEC through its 'Secretariat'. The Act is the authority for various ECOPs, including the ECOP for Sanitation and Sewage Management in Urban Areas.
Bhutan Building Rules 2002	Regulates the design and construction of onsite sanitation facilities.
Environmental Code of Practice for Sanitation and Sewage Management in Urban Areas (2000)	Provides detailed guidance for urban sanitation and sewage management, including general and specific provisions that describe how management should be undertaken to safeguard human health and protect the environment. Outlines sewage management technology selection criteria and processes to be followed and targets all urban areas to have mains sewerage systems. Includes provisions relating to septic tank management (including safe disposal of effluent). It only offers guidelines, however approvals under the Environmental Assessment Act 2000 can cite these guidelines and make practices mandatory.
Environmental Code of Practice for Stormwater (2004)	Offers guidelines for stormwater management, including provisions that stormwater should be separate from sewage.
Thromde Act of Bhutan 2007	Gives Thromde Tshogdus and Thromde Tshogdes powers to make rules relating to provision of services including water supply and sewerage services.
National Environment Protection Act 2007	Establishes and outlines roles and responsibilities of the NEC. Also supports a rights-based approach to environmental protection, stating that people have a fundamental right to a safe and healthy environment.
Waste Prevention and Management Act 2009	Act based on principles of "reduce, reuse and recycle". Requires all waste, including human waste, to be managed properly to maintain a healthy environment. The Act gives the MoH a role in guiding management of human waste in rural, but not urban areas. Draft regulations guiding implementation of the Act are almost finalised and will introduce a system of penalties for enforcement. The MoWHS is considering the inclusion of human waste management provisions within the forthcoming regulation.
Environmental Discharge Standard 2010	Sets performance-based water quality standards covering ambient water quality, industrial effluent and sewerage effluent.
Water Act 2011	Details provisions to protect water resources and establish institutions for water management. Informed by principles, including universal access to water, integrated water resource management, polluter/user pays, community-based management and the right to information. The NEC is the high-level implementing agency with specific implementation undertaken by various declared competent authorities. Among other things, the Act gives competent authorities the authority to collect wastewater service fees. It establishes that Dzongkhag Environment Committees shall also function as Water Management Committees (Section 30), but does not make clear what the roles, responsibilities and powers of Water Management Committees are.
National Health Policy 2011	Notes intent to strengthen links between the MoH and other stakeholders with regard to urban water supply and sanitation.

## Annex 3: List of policy and legal documents reviewed

Legal or policy document	Received	Reviewed
Application for Environmental Clearance Guideline for Urban Development 2004	•	•
Bhutan 2020: A Vision for Peace, Prosperity and Happiness (Planning Commission)	•	•
Bhutan 10th FYP 2008-2013		
Bhutan Building and Urban Development Act (draft)		
Bhutan SACOSAN IV country paper 2008	•	•
Bhutan Water Vision and Water Policy 2025	•	
Building Rules 2002	•	•
City Corporation Act		
Codes of Practice for Plumbing 2001		
Codes of Practice for Solid Waste Management 2002		
Draft Planning Standards for Urban Settlements in Bhutan 1999		
Environmental Assessment Act 2000	•	•
Environmental Code of Practice for Sanitation and Sewage Management	•	•
Environmental Code of Practice for Solid Waste Management		
Environmental Code of Practice for Stormwater Drainage Systems 2004	•	•
Environmental Codes of Practice for Installation of Underground and Overhead Utilities 2004	•	•
Environmental Discharge Standard 2010	•	•
Forest and Nature Conservation Act 1995		
Forestry and Nature Conservation Rules 2006		
Land Act 2007		
Land Compensation Rate 1996		
Land Pooling Rules of the Kingdom of Bhutan 2009		
Local Government Act 2009	•	•
Local Government Act: Rules and Regulations	•	•
Master Plan for Hydropower Development		
Municipal Act 1999	•	•
Municipal Finance Policy (draft)		
National Environment Protection Act 2007	•	•
National Forest Policy (draft) 2009		
National Health Policy 2011	•	•
National Strategy for Integrated Waste Management 2007		
National Urbanisation Strategy 2008	•	•
Operation and Maintenance Manual, Wastewater Treatment Plants 1996		
Operation and Maintenance Manual, Sewer Network 1996		



Legal or policy document	Received	Reviewed
PHED 3-page document on the Rural Water Supply and Sanitation Programme	•	•
Policy Framework for Solid Waste Management 2006		
Regulation for the Environmental Clearance of Projects 2002	•	•
Rural Water Supply and Sanitation Sector Policy	•	•
Rural Water Supply and Sanitation Sector Background Documents	•	•
Royal Decree on Sanitation 1992	•	•
SNV Draft Background Document for SSH4A in Small Towns	•	•
SNV Programme Concept Proposal for SSH4A in Small Towns	•	•
Tenzin Jamtsho 'Urbanisation and water, sanitation and hygiene in Bhutan' published in Regional Health Forum 2010	•	•
Water Act of Bhutan 2011	•	•
Thimphu City Development Strategy 2008		
Thimphu Municipal Development Control Regulations 2004		
Thimphu Urban Area and Property Regulations		
Thromde Act of Bhutan 2007	•	•
Waste Prevention and Management Act of Bhutan 2009	•	•
Water and Sanitation Rules 1995	•	•
Water Act of Bhutan 2011	•	•
Water Policy 2003	•	•
Water Supply and Sanitation Sector Master Plan 1999 (WHO: SEA/EH/520)		

## Annex 4: List of key informants consulted as part of the review

	Name	Designation/Organisation	Date Consulted
1	Mr. Rinchen Dorji	Director/DES/MoWHS	6 Feb, 2012
2	Mr. Ichharam Duhal	Chief/UISD/MoWHS	
3	Dasho Kinley Dorji	Mayor/TCC	
4	Ms. Latha Chhetri	Chief/UPDD/DHS/MoWHS	7 Feb, 2012 FGD
5	Ms. Dechen Yangden	Executive Engineer/DOE/MoWHS	
6	Ms. Daw Zam	Environmental Officer/MoWHS	
7	Mr. Tshering Penjor	Legal Officer/DUDES/MoWHS	
8	Mr. Yeshi Phuntsho	Legal Officer, Chhukha Dzongkhag	9 Feb, 2012
9	Dr. Dorji Wangchuk	Director General/DOPH/MoH	14 Feb, 2012
10	Mr. Kado Zangpo	Chief Planning officer/PPD/MoH	13 Feb 2012
11	Mr. Ugyen Rinzi	Executive Engineer/DOPH/MoH	14 Feb, 2012
12	Ms. Kunzang	Legal Officer/NEC	8 Feb, 2012
13	Dasho Dr. Sonam Tenzin	Secretary/MoWHS	13 Feb, 2012
14	Ms. Kunzang Lham	Planning Officer/GNHC	8 Feb, 2012
15	Mr. Pierre Flamand	Japan Sanitation Consortium	13 Apr, 2012

## Annex 5: Attendees at workshop discussing draft review – 4 april 2012

Workshop on Review of policy, legal and institutional arrangements for urban sanitation participants list

Sl.no	Name	Designation/Organisation
1	Kunzang	Legal Officer NEC
2	Pema Thinley	DES, MoWHS
3	Ichharam Duhal	DES, MoWHS
4	Minjur Dorji	Planning Officer / Thimphu Thromde
5	Rinchen Dorji	Director/ DES/MOWHS
6	Kinzang Norbu	DOHS
7	Ugyen Thinley	Dy. EE,PHED/MoH
8	Ugyen Rinzin	EE,PHED/MoH
9	Sonam Gyaltshen	Dy. EE,PHED/MoH
10	Pema Dorji	Dy.Chief.ENV officer/TT
11	Sangay Chedar	Planning Officer/ GNHC
12	Thinley Dem	Dy.EE/UIDP/DES
13	Dawa Zam	Env. Officer/ PPD/MoWHS
14	Dechen Yangden	UISD/DES
15	Gem Tshering	UISD/DES
16	Kencho Wangdi	SNV
17	Kinley Penjore	SNV
18	Dechen Wangmo	Consultant
19	Yetsho	SNV
20	Gabrielle	SNV



Review of Policy  
Legal and institutional arrangements for  
urban sanitation and hygiene in Bhutan

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The project is financially supported by the Ministry of Foreign Affairs (DGIS), the Netherlands