National Water and Sanitation Report based on Water and Sanitation Information System (WaSIS) data

November 2025

Water and Sanitation Division (WSD)
Department of Infrastructure Development
Ministry of Infrastructure and Transport

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Foreword

Bhutan continues to make remarkable progress towards universal access to safe drinking water and sanitation, reaffirming its strong commitment to the targets of SDG 6 and the objectives of the 13th Five-Year Plan. This report marks an important milestone in the sector's transition towards data-driven planning, improved service delivery, and strengthened accountability.

Drawing on data from the Water and Sanitation Information System (WaSIS), established in 2023 by the Water and Sanitation Division (WSD) under the Department of Infrastructure Development (DoID), Ministry of Infrastructure and Transport (MoIT), it presents a comprehensive national overview of service levels, system functionality and critical gaps. With inputs from trained engineers and technicians, the system captures extensive information on water supply and sanitation services across all twenty Dzongkhags and four Thromdes. Based on analysis of water and sanitation data up until November 2025, this report provides an important sector baseline for future planning, monitoring, and performance assessment.

The findings reflect both encouraging progress and emerging challenges. While access to improved water sources has reached 99.2% of households, only 51.2% currently benefit from safely managed drinking water services. These gaps are largely attributed to inadequate treatment facilities, ageing infrastructure, and intermittent water supply systems. Safely managed sanitation coverage stands at 90%, with access to basic sanitation at 98.8%. Despite this significant progress, faecal sludge management remains a key challenge requiring urgent and focused interventions.

Addressing these gaps will require targeted investments, clearer roles and responsibilities for timely data submission and quality assurance, regular refresher trainings, dedicated focal points for annual updates, and stronger coordination among Dzongkhags, Thromdes, and RCDC. This report therefore provides a strong foundation for evidence-based planning, targeted actions, and effective resource allocation under the 13th Five-Year Plan and beyond, accelerating progress towards national goals and SDG 6.

I extend my sincere appreciation to all engineers, technicians, local governments, and partner agencies whose collaboration made this report possible and whose continued dedication remains central to delivering safe, reliable, and equitable water and sanitation services for every community in Bhutan.

(Karma Dupchuk)

Director General

Department of Infrastructure Development

Acknowledgement

The Water and Sanitation Division (WSD), Department of Infrastructure Development (DoID), Ministry of Infrastructure and Transport (MoIT), extends its sincere gratitude to all sectors and partners for their invaluable support in the development of the system and the preparation of this report.

We would like to express our sincere appreciation to SNV for its support in the development of the Water and Sanitation Information System (WaSIS), and to both SNV and UNICEF for supporting user training for the system.

We gratefully acknowledge the Local Governments, particularly the engineers and technicians, for their dedicated efforts in data collection. We also commend the Dzongkhag Chief Engineers and Chief Engineers of the Infrastructure Division of the Thromdes for serving as data administrators and for ensuring the quality assurance and validation of information in the Water and Sanitation Information System (WaSIS) platform.

Our appreciation is further extended to the members of the Technical Working Group from the Department of Water (DoW), Ministry of Energy and Natural Resources (MoENR); the Royal Centre for Disease Control (RCDC); the Policy and Planning Division (PPD), MoIT; UNICEF Bhutan Country Office; and the WSD, who worked collaboratively in the development of this report with the support of the system developer consultant.

Acronyms

CFU	Colony Forming Unit
DoID	Department of Infrastructure Development
DoW	Department of Water
E. coli	*Escherichia coli*
FYP	Five Year Plan
HH	Households
JMP	Joint Monitoring Programme
MoENR	Ministry of Energy and Natural Resources
MoH	Ministry of Health
MoIT	Ministry of Infrastructure and Transport
NHS	National Health Survey
ODF	Open Defecation Free
O&M	Operation and Maintenance
PPD	Policy and Planning Division
RCDC	Royal Centres for Disease Control
SDG	Sustainable Development Goal
SNV	Netherlands Development Organization
UNICEF	United Nations Children Fund
WaSIS	Water and Sanitation Information System
WASH	Water, Sanitation and Hygiene
WSD	Water and Sanitation Division
WSP	Water Safety Plan

Executive Summary

Bhutan's water and sanitation sector continues to demonstrate strong national commitment and measurable progress towards the realization of SDG 6.1 and 6.2 and the goals of the 13th Five Year Plan, supported by a growing emphasis on service-level monitoring and data driven decision making. The Water and Sanitation Information System (WaSIS) now provides a comprehensive national picture of both coverage and quality of services across rural and urban areas, enabling more accurate assessment of sector performance and remaining gaps. The latest analysis shows that 99.3% of households have access to improved water sources through 4,553 water supply schemes across the country, leaving only 0.8% unserved, primarily in remote and water-stressed areas. Most rural schemes are gravity-fed, while urban areas are served by gravity-fed, pumping or combined systems.

Despite near-universal coverage, service quality remains a key challenge. Over the past two decades, Bhutan has significantly improved its WASH services. In 2000, only 38.2% of the population had access to safely managed drinking water, while 40.8% relied on unimproved sources and 9.4% on surface water. According to the WHO/UNICEF Joint Monitoring Programme (JMP) 2025, safely managed water coverage increased to 66.0% and basic services to 87.0%, with unimproved and surface water sources nearly eliminated. However, 2025 WaSIS analysis indicates safely managed water services at 51.2% and limited services at 12.1%. This variation reflects the application of more rigorous service-level classification standards and strengthened monitoring mechanisms under WaSIS. Data are collected by Local Governments and subsequently reviewed, verified, and validated by designated data administrators, enhancing accuracy and accountability in sector reporting.

Rural areas perform better than urban areas (39.0%) in terms of safely managed water services (61.2% compared to 39.0%). Nationally, 87.1% of households receive basic services, while 12.1% rely on limited services due to intermittent supply or distant access.

Water Safety Plans (WSPs), although implemented in the past, were not sustained due to the absence of dedicated funding. Renewed emphasis is now being placed on WSP implementation to ensure safe and reliable drinking water. Microbiological compliance stands at 61.9% nationally, with rural systems outperforming urban systems (70.3% versus 52.9%), according to the drinking water quality surveillance report (2017-2024) of the RCDC. Persistent contamination in urban systems, including 486 high-risk samples, underscores the need for more effective and efficient treatment, monitoring, and operational capacity.

Sanitation coverage has also seen transformative progress. As reported by JMP 2025, safely managed sanitation increased from 28.4% in 2000 to 49.0% in 2025, with open defecation reduced to less than 1%. WaSIS data show safely managed sanitation at 90% nationwide, with 96.5% of households using functional toilets and only 0.2% practicing open defecation. Rural areas lead with 97.8% safely managed services compared to 77.4% in urban areas, where unsafe faecal sludge disposal remains a major concern. Urban sanitation is largely dependent on sewerage systems, while rural areas use pit-based systems. Remaining service gaps in rural areas include 203 households without toilets and 293 households practising unsafe faecal sludge disposal out of 57,899 households. Strengthening faecal sludge treatment, safe containment, and disposal, particularly in urban areas, is critical to achieving safely managed sanitation for all.

Overall, Bhutan is on track towards universal access; however, significant challenges remain in achieving safely managed water services, improving urban sanitation management, and ensuring service reliability. Priority actions include expanding safely managed water services in urban areas, accelerating Water Safety Plan implementation, strengthening water caretaker and O & M capacity, improving faecal sludge management systems, and addressing the remaining unimproved sanitation gaps. Mainstreaming dedicated annual budget allocations for these interventions will be essential to achieving national targets and the SDG 6 goals.

1. Background

The Water and Sanitation Information System (WaSIS), established in 2023 by the Water and Sanitation Division (WSD) under the Department of Infrastructure Development (DoID), Ministry of Infrastructure and Transport (MoIT) with support from SNV, serves as Bhutan's national platform for systematically capturing, managing, and analyzing water and sanitation data. Covering all 20 Dzongkhags and 4 major Thromdes, WaSIS provides a centralized system for evidence-based planning and monitoring of WASH services. With technical assistance from UNICEF and SNV, 275 trained engineers and technicians contributed to building this system, which now hosts baseline data on rural and urban water supply, sanitation facilities, and service delivery indicators.

Bhutan's water sector achieved significant milestones during the 12th Five-Year Plan through the Water Flagship Programme, which implemented 566 water supply schemes benefiting over 58,000 households and integrated irrigation systems covering more than 9,500 acres of arable land. The government invested nearly Nu. 3.26 billion in these initiatives, strengthening water infrastructure, improving source management, and enhancing reliability and functionality. WaSIS now plays a critical role in documenting these investments, assessing infrastructure functionality, and monitoring service performance to inform future planning and resource mobilization.

Parallel to water supply improvements, Bhutan was declared Open Defecation Free (ODF) in 2022 following nationwide progress in sanitation coverage and hygiene practices. The WaSIS supports the sustainability of these gains by tracking sanitation facility conditions and guiding strategies to achieve safely managed sanitation. Bhutan's long-standing commitment to WASH, dating back to the initiation of rural water supply schemes in 1974, has resulted in high coverage levels, 99.5% for improved water sources and 95.2% for safe sanitation by 2019. Under the 13th Five-Year Plan, Bhutan aims to achieve 90% safely managed drinking water and 100% safely managed sanitation by 2029, aligning with SDG 6 targets. WaSIS strengthens this alignment by monitoring key service-level indicators.

Amid growing climate challenges such as drying water sources and seasonal variability, WaSIS also contributes to climate resilience by capturing data on water availability, infrastructure conditions, and vulnerabilities. This report analyzes WaSIS data at the national level to provide a comprehensive overview of Bhutan's water and sanitation landscape, linking system-generated evidence with national priorities, SDG goals, and climate resilience to ensure informed planning, decision-making, and future WASH investments.

2. Definitions

Urban:

Refers to settlements located within approved Dzongkhag and Yenlag Thromde boundaries (Department of Human Settlement, Ministry of Works and Human Settlement, 2015) and those designated would-be urban areas served by water supply systems with treatment facilities.

Rural:

Refers to settlements and communities situated outside designated urban areas, where water supply and sanitation services are generally managed by the Gewog administration or local communities. Water supply systems in rural areas do not have treatment facilities.

Drinking Water:

Water that is safe and suitable for human consumption, meeting Bhutan Drinking Water Quality Standards and free from contaminants that pose health risks.

Drinking Water Service Levels

Safely managed water service: Drinking water from an improved water source that is located on premises, available when needed and free from faecal and priority chemical contamination. In this report, safely managed water services refer to provision of water supply services considering supply duration of 16 to 24 hours with no fecal contamination.

Basic water service: Drinking water from an improved source, provided collection time is not more than 30 minutes for a round trip, including queuing. For this report, basic water includes water from an improved source where the supply is available for 16-24 hours per day and where water safety has not been fully verified.

Limited water service: Drinking water from an improved source for which collection time exceeds 30 minutes for a round trip, including queuing. For this report, limited water service includes water services with supply duration of less than 16 hours per day and unverified water quality.

Unimproved water service*: Drinking water from an unprotected dug well or unprotected spring.

Surface water*: Drinking Water directly from a river, dam, lake, pond, stream, canal or irrigation canal.

** Due to limited data in WaSIS, this report groups both unimproved water services and surface water sources under the category of "unserved".*

Sanitation:

Refers to the provision of facilities and services for the safe management of human excreta and domestic wastewater from the facilities used by individuals to containment and storage and treatment onsite or conveyance, treatment and eventual safe end use or disposal (National Sanitation and Hygiene Policy, 2020).

Sanitation Service Levels

Safely Managed Sanitation: Use of improved sanitation facilities that are not shared with other households, with excreta safely disposed of in situ or transported and treated off-site. In this report, for Urban, households having septic tanks with soak pits and those connected to sewerage systems with treatment were considered. For Rural, households with pit toilets, without any toilets, shared toilets and open dumping were excluded.

Basic Sanitation: Use of improved sanitation facilities that are not shared with other households, but where the safe management of excreta is not verified. In this report, households having access to a pour-flush toilet with on-site treatment (leaching pit, septic tank with/without soak pit) were considered.

Limited Sanitation: Use of improved sanitation facilities that are shared between two or more households. In this report, households with shared toilets were considered.

Unimproved Sanitation: Use of sanitation facilities that do not hygienically separate excreta from human contact. In this report, households with pit-toilets were considered.

Open Defecation: Disposal of human feces in open spaces such as fields, forests, waterways, or other environments without using any sanitation facility. In this report, households without toilets were considered.

3. Institutional landscape and mandates

Figure 1 represents the organizations and agencies which are mandated for construction, operation and management of water and sanitation services in the country:

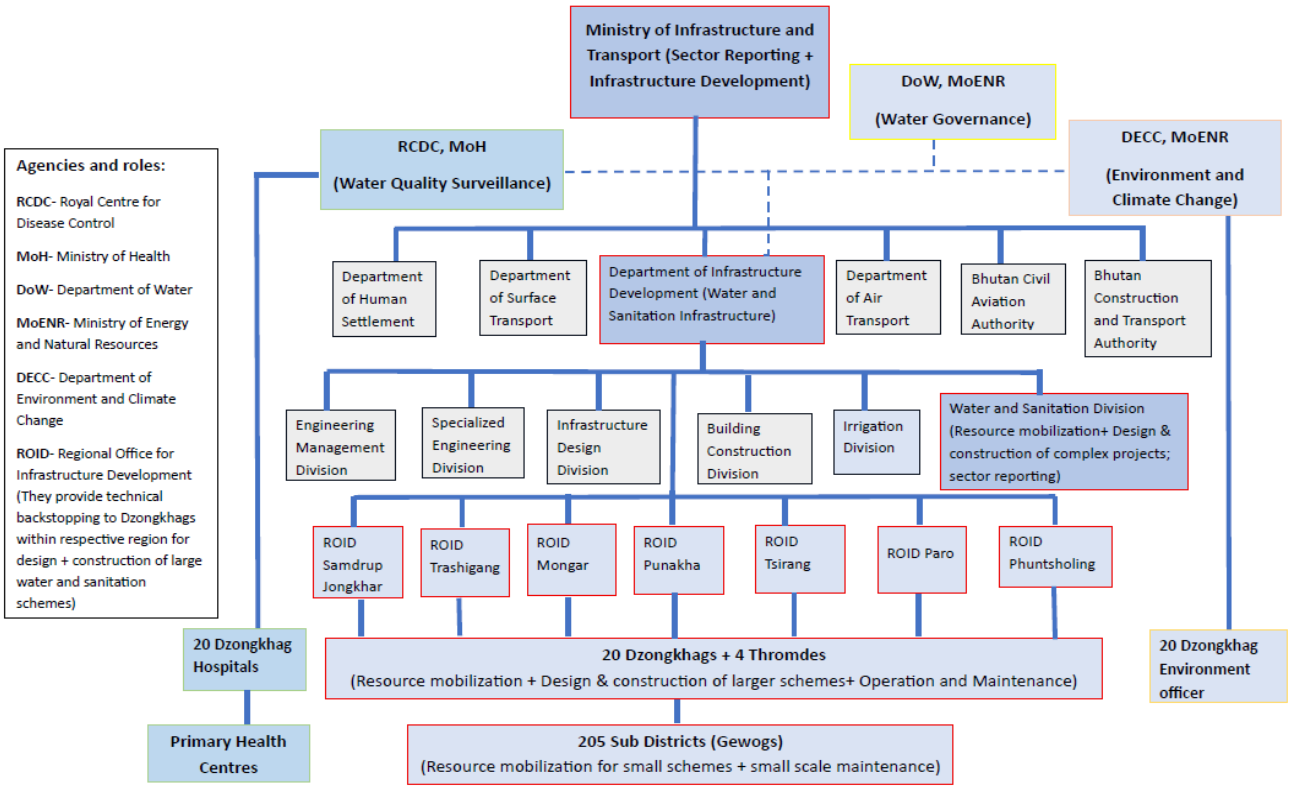

Figure 1 Institutional Landscape

4. Scope

This report presents an analysis of data from the WaSIS, covering water supply and sanitation infrastructure across the country. It encompasses both rural and urban systems and examines key service delivery indicators, including functionality assessments, to provide a comprehensive nationwide overview of water and sanitation services. However, the analysis does not cover the independent schemes serving institutions such as schools, health care facilities, armed force establishments, and monastic institutions.

5. Objectives

- Assess the national coverage, functionality, and service level of water supply and sanitation in the country.

- Align the findings with the priorities of the 13th FYP and SDG 6 to guide strategic planning, resource mobilisation, and the improvement of water and sanitation services.
- Highlight data gaps and disparities in water and sanitation information across Local Governments.
- Identify system gaps and limitations within WaSIS to future enhancement.

6. Methodology

The WaSIS was developed through extensive stakeholder consultations in 2023, incorporating requirements from both National and Dzongkhag levels. Representatives from a total of nine Dzongkhags and two Thromdes representatives, and relevant agencies participated in developing and finalizing the system architecture. The draft architecture was further refined by the WSD before being outsourced to a local software development firm for system development.

The draft WaSIS system was subsequently presented to WSD, and further improvements were made based on the feedback provided. To validate the system with real-time data, a workshop was conducted for Chhukha Dzongkhag engineers and health officials. Comments and suggestions received from the participants were reviewed and incorporated before rolling out the system to other Dzongkhags.

The system was progressively deployed to all Dzongkhags starting mid- 2023, accompanied by user training that covered 275 Gewog engineers and technicians with funding support from SNV and UNICEF. In addition, dedicated training was provided to Dzongkhag Chief Engineers and the Chief Engineer of the Infrastructure Division of Thromdes, who serve as data administrators for their respective Dzongkhags and Thromdes. During the training, all Dzongkhags and Thromdes entered the available data into the system, and an additional period of up to four months was provided to complete data entry. The system's data server was then integrated with the national server hosted by GovTech at the end of 2023.

The first report from the data generated through the system was prepared during the workshop held from 26–28 November 2025. Relevant stakeholders from Department of Water (DoW), Ministry of Energy and Natural Resources (MoENR); Royal Centre for Disease Control (RCDC), Ministry of Health (MoH); Policy and Planning Division (PPD), MoIT; UNICEF office, and WSD collaboratively developed the report with support from the system developer consultant.

Dzongkhags and Thromdes with data discrepancies in WaSIS were contacted individually, and all data were verified and validated accordingly. The series of activities culminating in the development of the WaSIS system and report generation is shown in *Figure* 2 below.

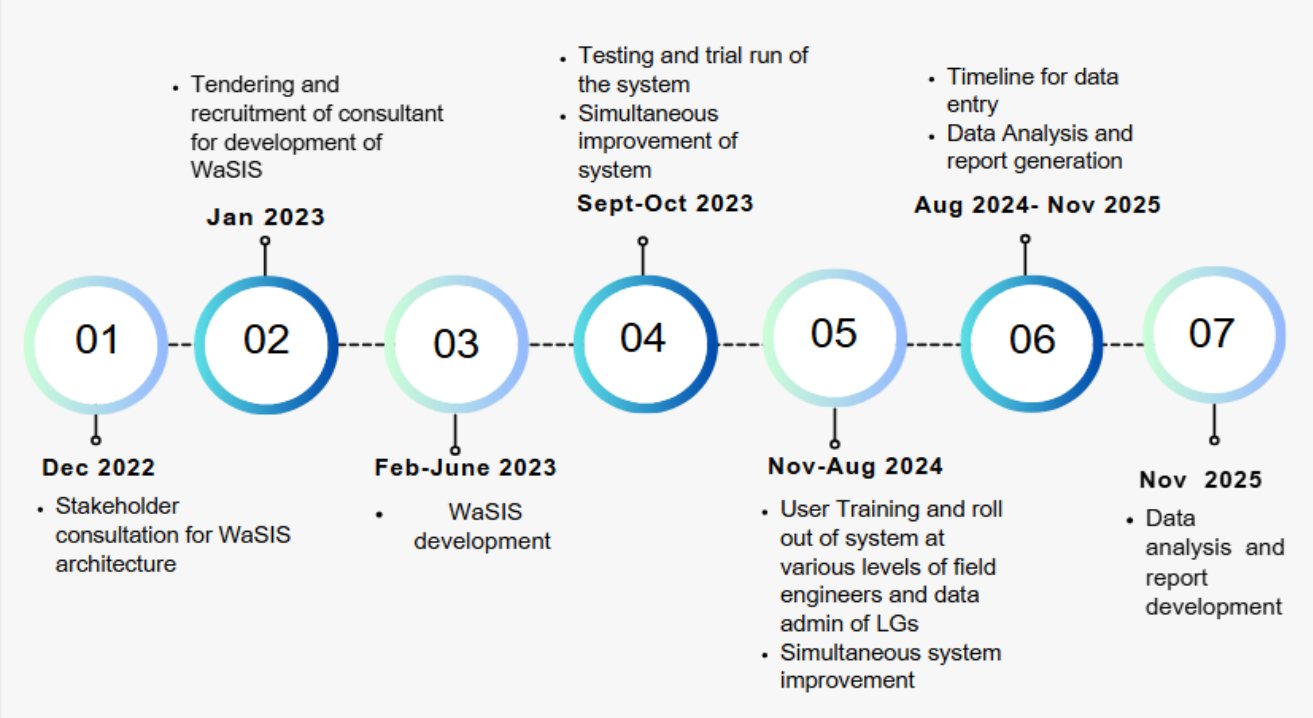

Figure 2 Development of WaSIS and report development

Dzongkhag and Thromde engineers enter and submit data into the WaSIS system, after which the Dzongkhag Chief Engineer or Thromde Chief Engineer verifies and publishes the data; finally, the Water and Sanitation Division (WSD) monitors and reviews the verified and published data for quality assurance and compliance. The Figure 3 shows the data collection and verification process followed.

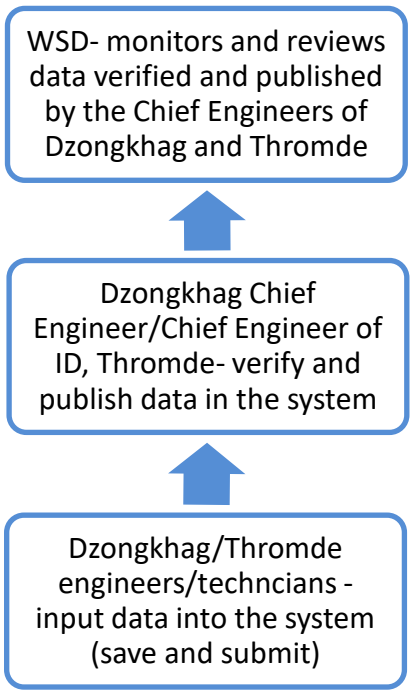

Figure 3 Data collection flow in WaSIS

7. Analysis and Result

7.1. Overview of water services

This section presents the distribution of drinking water service levels across urban and rural areas, based on the analysis of data from the WaSIS. Service-level classification follows the WHO/UNICEF Joint Monitoring Programme (JMP) framework and national standards. Nationally, the majority of Bhutan's population has access to improved drinking water services, with varying levels of reliability, safety, and availability. *Table* 1 summarizes the proportion of the population receiving Safely Managed, Basic, Limited, and Unserved drinking water services.

A total of 4,553 water supply schemes were recorded in WaSIS. Of these, 98.7% are rural water supply schemes. Gravity-fed systems (4,482) dominate the national water supply landscape, especially in rural areas where topography supports natural flow. The drinking water is mostly sourced from springs (71.2%) and streams (26.9%), with small proportions from rivers, groundwater, and lakes. Spring sources are particularly critical in rural Bhutan, while urban areas rely more on a mix of streams, rivers, and groundwater.

According to the data collected through WaSIS, a total of 111,215 households is currently served by water supply schemes, while only 875 households remain unserved, bringing the total surveyed households to 112,090. This represents 68.77% of all households in Bhutan, based on the 2017 Population and Housing Census, which recorded 163,001 households nationwide.

Bhutan has achieved near-universal access to improved drinking water sources, with only 0.78% of households unserved. The remaining unserved households are primarily located in geographically remote areas and water-stressed communities.

Water safety planning is an essential tool for ensuring safe water supply through risk assessment and mitigation. While WSPs have been implemented in the recent past, it could not be continued due to lack of dedicated funding. Strengthening WSP coverage nationwide to sustain water supply schemes remains a priority.

Table 1 Overview and types of water supply systems

Description	**Urban**	**Rural**	**Total**
Total number of water supply scheme	56	4497	4553
Type of Water Supply in numbers:			
Dual (Gravity and pumping combined)	9	16	25
Gravity	33	4449	4482
Pumping	14	32	46

Water source:			
Stream	58	1293	1351
Ground water	28	19	47
Spring	17	3553	3570
River	8	39	47
Lake		1	1
Number of Household served	33344	77871	111215
Number Household unserved	42	833	875
Total coverage (%)	99.9	99.0	99.3
No. HHs with less than 16 hours of water supply	5567	7912	13479
No. HHs with 16 to 24 hours of water supply	27735	69126	96861
No. HHs with 16 to 24 hours of water supply (%)	73.8	87.1	82.8
No. HHs with metered connections	18891	0	18891
No. Water safety plan implemented	8	524	532

7.2. National drinking water service level status

This section reflects on the national status of drinking water services based on data from WaSIS and the RCDC water quality surveillance. It highlights service level and disparities between urban and rural areas and identifies gaps requiring interventions to achieve the national 13th FYP and SDG 6.1 targets.

As shown in *Figure* 4, nationally, 87.1% of the households have access to basic water services with 51.2% having access to safely managed water services. For urban areas, 83.2% of households have access to basic water services with 39% having access to safely managed water services. For rural areas, 88.8% have access to basic water services with 61.2% having access to safely managed water services. The remaining households rely on basic or limited or surface water services, with a small proportion still unserved.

In terms of safely managed water services, rural areas have better services (61.2%) as compared to urban areas (39.0%). However, the proportion of households with limited water services is notably higher in urban areas (16.7%) compared to rural areas (10.2%). Due to higher population density, urban systems face higher stress, leading to intermittent supply and increased risks of contamination.

RCDC water quality reports show intermittent *E. coli* contamination, particularly in urban systems with piped distribution networks, affecting safely managed classification.

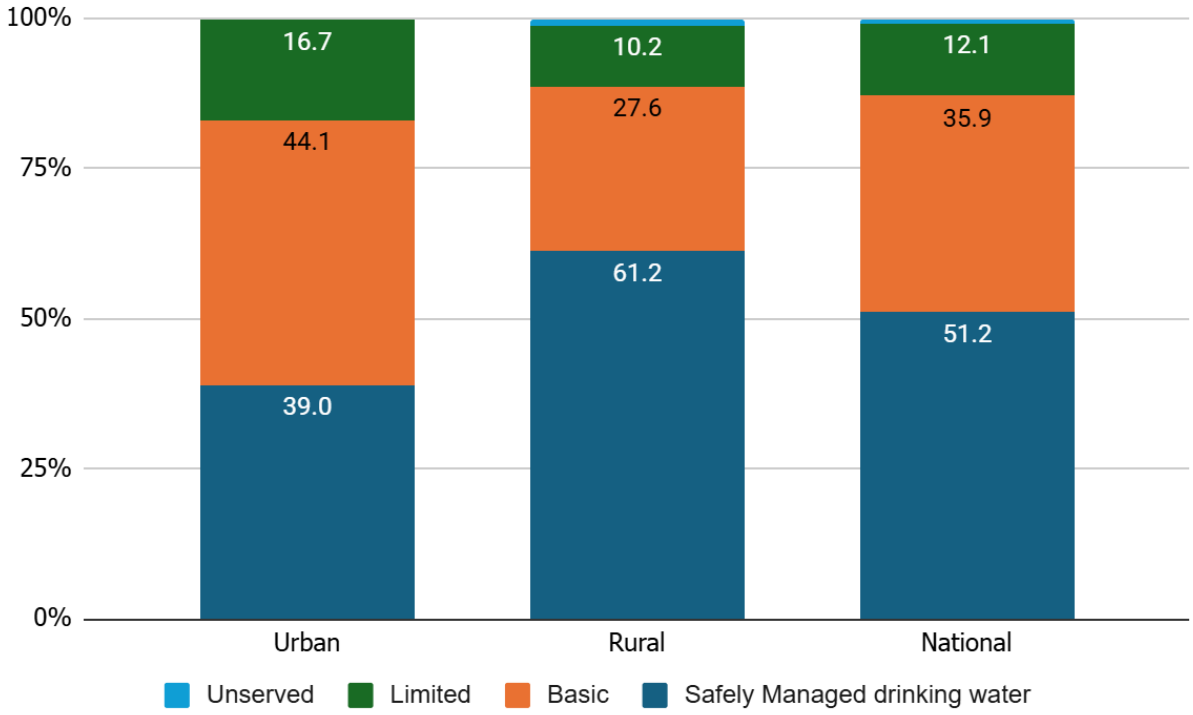

Figure 4 Drinking water service level status in percentage

7.3. Water Quality Monitoring

As per the report published by RCDC, covering the period from 2017–2024, 28,001 drinking water samples were tested nationwide for *E. coli*, with 61.9% meeting the national standard (0 CFU/100mL *E. coli*). Rural areas performed better, with 70.3% of safe samples, compared to 52.9% in urban areas (*Table* 2).

Table 2 RCDC's water quality test report

Description	**Urban**	**Rural**	**Total**
Total sample tested for *E. coli* (2017-2024)	13640	14361	28001
Total sample with 0 *E. coli* (2017-2024)	7213	10094	17307
Compliance/Safe (%)	52.9	70.3	61.9
Low health risk (1-10 CFU/100mL *E. coli*)	3900	3612	7512
Medium health risk (11-50 CFU/100mL *E. coli*)	2041	578	2619
High health risk (> 50 CFU/100 mL *E. coli*)	486	77	563

Among contaminated samples, 26.8% showed low risk (1–10 CFU/100 mL), 9.4% showed medium risk (11–50 CFU/100 mL), and 2.0% were high risk (>50 CFU/100 mL). Urban areas accounted for most high-risk cases (486 of 563 grossly contaminated samples)

These results indicate ongoing contamination concerns, particularly in urban distribution systems, underscoring the need for strengthened monitoring and implementation of water safety measures.

7.4. Progress and Gaps in Access to Drinking Water

The data indicates significant improvements in access to drinking water services over the past two decades. In 2000, according to the Joint Monitoring Programme (JMP), only 38.2% of the population had access to safely managed drinking water services, while a substantial proportion relied on unimproved sources (40.8%) and surface water (9.4%). Basic services accounted for just 5.9%, and limited services stood at 5.7%.

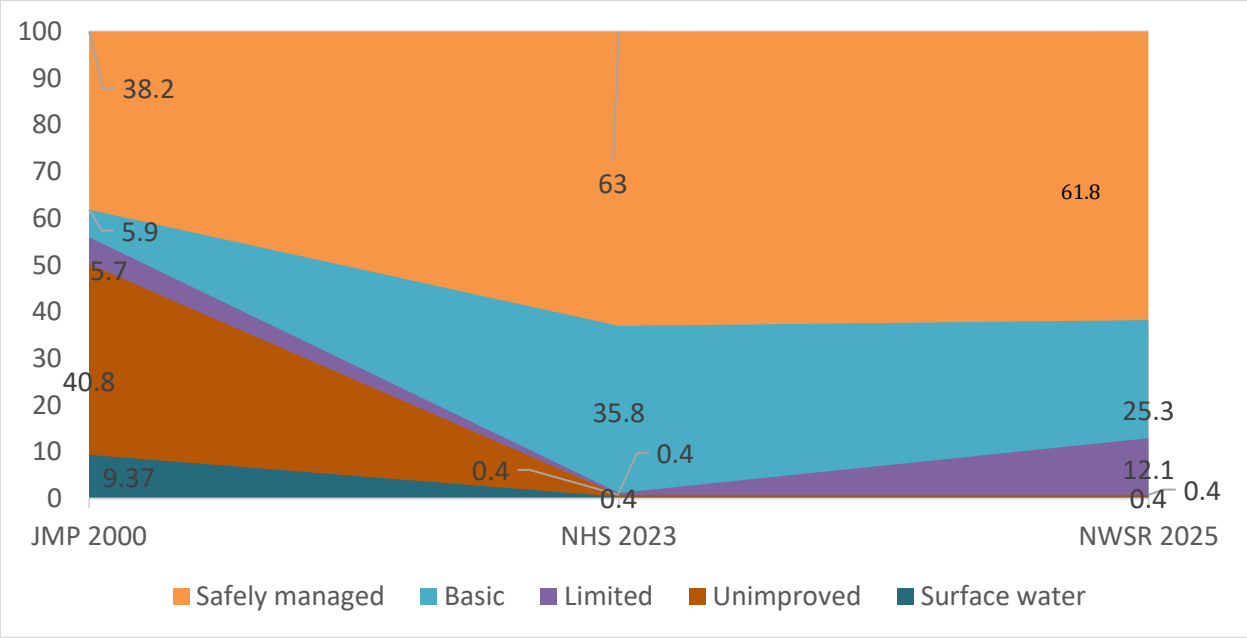

Figure 5 Water service progress since 2020

By 2023, the National Health Survey (NHS) reported remarkable progress. Access to safely managed services increased to 63%, and basic services rose sharply to 35.8%, indicating a major shift toward improved water supply infrastructure. Reliance on unimproved sources and surface water dropped dramatically to 0.4% each, reflecting near elimination of these unsafe sources. Limited services also declined to 0.4%, suggesting improved equity in service delivery.

However, as per this report, there is a slight decline in safely managed services to 51.2%, while basic services decreased to 87.1% including safely managed water services. Interestingly, limited services rise to 12.1%, which may indicate challenges in sustaining universal access or disparities in service quality. Unimproved and surface water sources remain negligible at 0.4%, demonstrating continued success in eliminating unsafe water sources.

Overall, the trend from 2000 to 2025 reflects a transformative improvement in water service coverage, with a strong reduction in unsafe sources and a substantial increase in safely managed services. However, the recent increase in limited services suggests the need for targeted interventions to maintain progress and ensure equitable access for all.

8. Overview of Sanitation Services

This section provides an overview of household sanitation access across urban, rural, and national levels. The most common type of toilet facility in the country is the pour-flush toilet, with 99.83% of urban households and 98.03% of rural households using this type giving a national coverage of 98.73%. Only 0.22% of households at the national level use shared toilets with urban households accounting for 0.13% and rural households accounting for 0.28%. As regards to pit toilet usage, national level stands at 0.83% against 0.03% in urban areas and 1.32% in rural areas.

Households without any toilet facilities are exclusively located in rural areas, with 0.35% of households lacking access while urban areas report full coverage with no households without toilets. The total number of households included in this dataset is 36,006 for urban areas, 57,899 for rural areas, and 93,905 nationally. This represents 57.61% of all regular households in Bhutan, based on the 2017 Population and Housing Census, which recorded 163,001 households nationwide.

Table 3 Overview of sanitation services and types of sanitation facility used

Description	Urban	Rural	National
HHs with Pour flush toilet	35945	56764	92709
HHs with shared toilet	50	164	214
HHs with pit toilet	11	768	779
HHs with no toilet	0	203	203
HHs with functional toilet	34620	54846	89466
HHs openly dumping faecal sludge	142	151	293
HHs disposing faecal sludge in pit/drying beds and covered	366	3298	3664
HHs with septic tank with soak pit and HHs connected to sewer lines with treatment	27875		27875

At the national level, 98.8% of the households have access to basic sanitation with 90.0% having access to safely managed sanitation. Rural areas have significantly higher access to safely managed sanitation (97.8%) against 77.4% in urban areas. Some gaps still remain mostly in rural areas, where 1.3% of households use unimproved sanitation and 0.4% still practice open defecation. Urban areas report neither unimproved sanitation nor open defecation, demonstrating stronger service coverage. Although the proportions of limited services are low nationally (0.2%), the presence of unimproved sanitation and open defecation in rural areas highlights the need for targeted interventions to eliminate remaining unsafe practices and ensure equitable sanitation access across all settings (*Figure* 6).

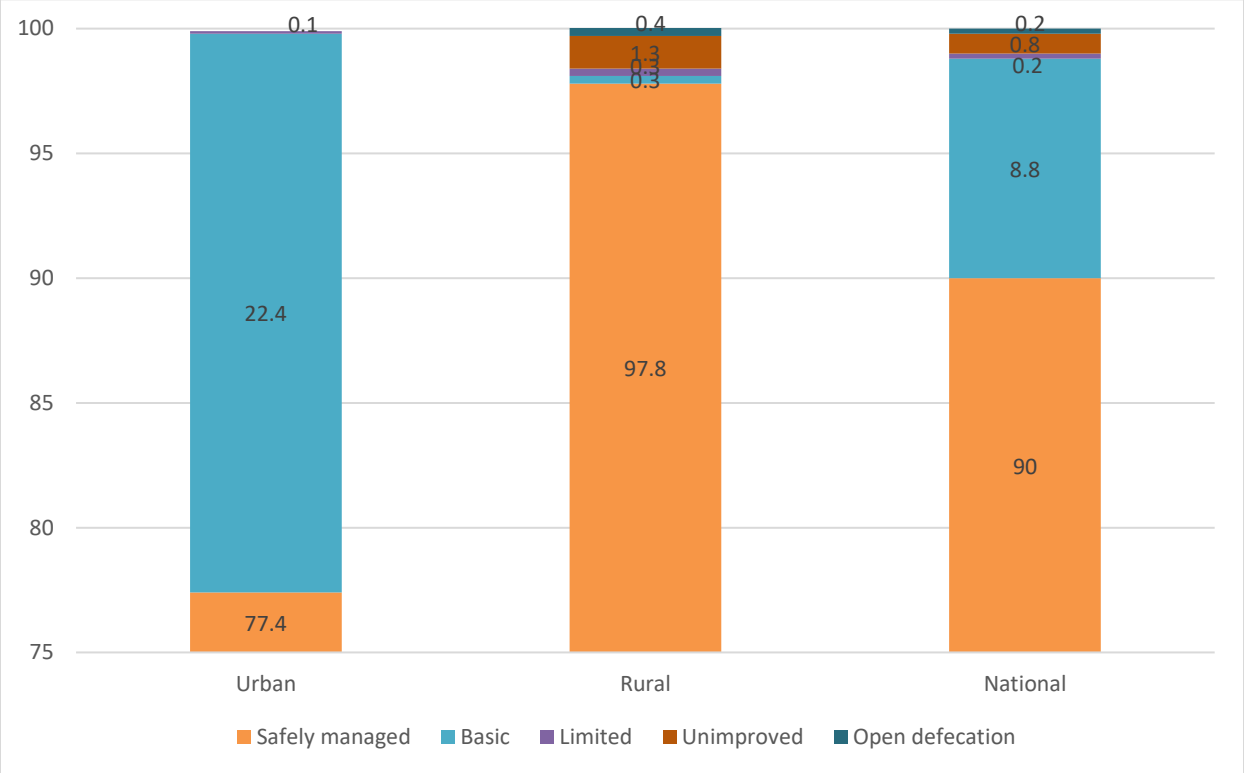

Figure 6 Sanitation service level in percentage

6.3% of urban households against 96.6% rural households have a functional toilet in use. Nationally, the overall proportion stands at 96.5%, showing that functional sanitation access is widespread and well established across the country.

A total of 293 households nationwide continue to openly dump faecal sludge, with urban areas accounting for 142 households and rural areas for 151. Although these numbers are relatively low, they still highlight persistent unsafe disposal practices that require attention. Still challenges

remain for operating and managing wastewater treatment plants especially high tech in nature including safe management of faecal sludge.

8.1.Progress and Gaps in Access to Sanitation

The data demonstrates a remarkable transformation in sanitation coverage over the past two decades. In 2000, according to the Joint Monitoring Programme (JMP), only 28.4% of the population had access to safely managed sanitation services, while the majority (55.3%) relied on basic services. A smaller proportion used limited services (2.1%), while unimproved sanitation accounted for 5.6%, and open defecation was still practiced by 8.6% of the population.

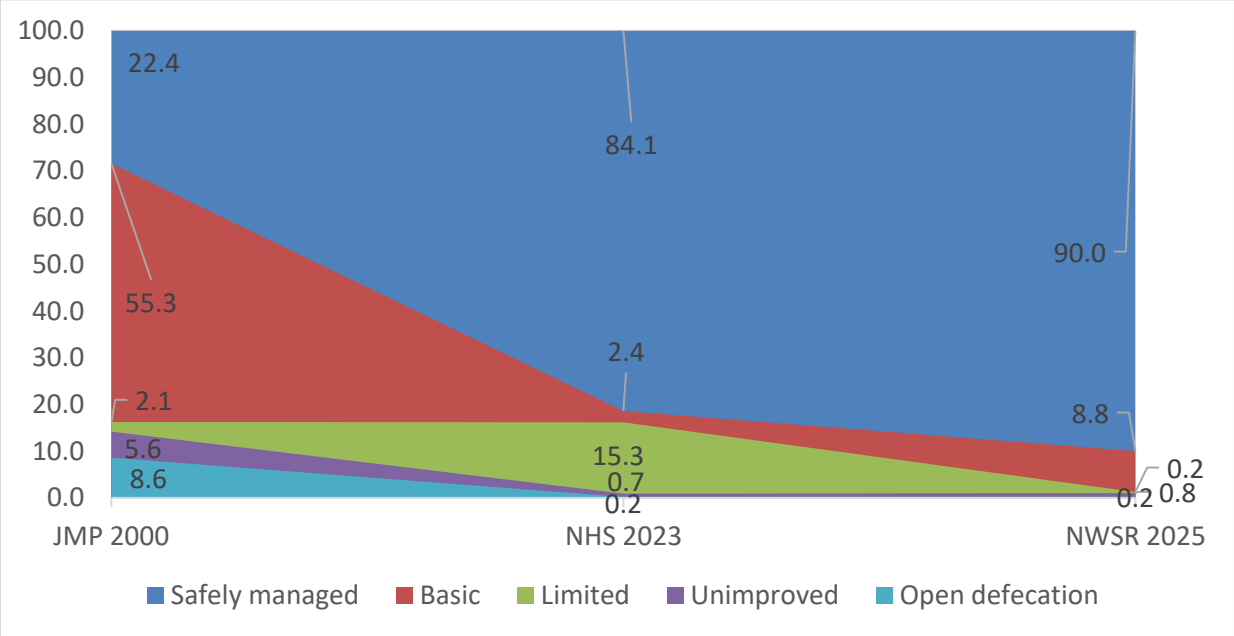

Figure 7 Sanitation service progress since 2020

The National Health Survey (NHS) reported significant progress in 2023 according to which the access to safely managed sanitation surged to 81.4%, marking a major achievement in improving hygiene and public health. Open defecation was nearly eliminated, dropping to 0.2%, and unimproved sanitation dropped to 0.7% after having been declared as ODF in 2022 nationally. However, limited services increased to 15.3%, suggesting that while coverage improved, some households faced constraints in service quality or reliability. Basic services declined sharply to 2.4%, indicating a shift toward higher service standards.

According to this report, 90% of the population have access to safely managed sanitation services. Basic services increased to 98.8%, while limited services dropped dramatically to 0.2%, reflecting

efforts to address service gaps. Unimproved sanitation and open defecation remain negligible at 0.8% and 0.2%, respectively, indicating close to universal access to improved sanitation.

Overall, the trend from 2000 to 2025 highlights a substantial and sustained improvement in sanitation coverage, with a strong focus on safely managed services and the near elimination of open defecation. The increase in limited services in 2023 underscores the need for continued investment in infrastructure and service quality to ensure equitable and sustainable sanitation for all.

9. Limitations of the report

i. The report does not include data from few Dzongkhags' urban towns [1]. While the water supply systems are already existing for these towns, the data have not been entered in the system and were not available for analysis.

ii. The sanitation assessment in this report does not cover stormwater drainage and solid waste management components.

iii. Urban sanitation coverage is based only on data submitted, verified and published by 13 Dzongkhags. Although remaining seven Dzongkhags[2] submitted their data, the information was not verified and published in WaSIS by the respective Dzongkhag admins and was therefore excluded from the analysis.

iv. Similarly, rural sanitation data for Haa, Thimphu, Tsirang, and Trashigang Dzongkhags were not considered, as the submitted data were not verified and published in WaSIS.

v. The report does not include water supply systems that are independently operated and managed by institutions such as healthcare facilities, schools, armed force establishments, monastic institutions, Hydropower plant establishments, resorts etc. However, systems that are shared with surrounding communities have been captured in the report.

vi. For household reporting, each building was considered as a single household, regardless of the number of storeys or dwelling units. This may have resulted in an under-representation of the actual beneficiary population and will need to be addressed in the future data collection.

[1] Dekiling & Jalikhar (Bumthang); Tsimasham & Gedu (Chhukha); Lhamoidzingkha & Dagapela (Dagana); Gasa town & Damji (Gasa); Haa town & Jyenkana (Haa); Autsho (Lhuentse); Yadi (Monggar); Bondey (Paro); Punakha town & Lobesa (Punakha); Samdrup Choling & Dewathang (Samdrup Jongkhar); Gomtu (Samtse), Sarpang Tar & Sechamthang (Sarpang), Khasadrapchu & Debsi (Thimphu), Trashigang town, Rangjung, Kanglung, & Wamrong (Trashigang), Kuenga Rabten (Trongsa), Mendrelgang (Tsirang), Nobding (Wangdue Phodrang), Panbang (Zhemgang), Pema Gatshel town & Denchi (Pema Gatshel), and Lubding (Wangdue).

[2] Chhukha, Sarpang, Gasa, Zhemgang, Trashigang, Punakha, and Tsirang

vii. Water quality data entered in WaSIS were largely inconsistent and could not be analysed. Therefore, the water quality results published by the Royal Centre for Disease Control in 2025 were used, particularly for assessing safely managed drinking water services.

viii. The report does not fully cover all SDG indicators. For sanitation, information on faecal sludge treatment and disposal is not captured. For water supply, key parameters such as accessibility when needed and freedom from contamination are not comprehensively assessed.

10. Recommendations

Based on the data captured in the WaSIS and the subsequent analysis, the following recommendations are proposed to improve water and sanitation service delivery across the country, including their operation and management.

i. **Implementation of Water Safety Plans (WSPs)**: Mandate the adoption and implementation of Water Safety Plans for all urban and rural water supply systems to enhance water safety, improve service quality, and promote preventive system management.

ii. **Improve system reliability and quality**: Conduct diagnostic assessments of all urban water supply systems and wastewater treatment systems to identify gaps in reliability, treatment efficiency, and contamination risks. Implement augmentation measures in areas with intermittent water supply (<16 hours/day).

iii. **Strengthen sanitation management**: Prioritize construction of sludge treatment facilities and enforce safe faecal sludge disposal practices to protect public health and the environment. Provide targeted support to households with unimproved sanitation, especially the 203 rural households without toilets.

iv. **Enhance coordination and monitoring**: Improve collaboration between Dzongkhags/Thromdes and RCDC (through health centers) in terms of water quality testing and surveillance for timely reporting, feedback, and corrective actions. Strengthen enforcement and monitoring mechanisms for water and sanitation safety.

v. **Enable evidence-based planning**: Share the WaSIS report to Dzongkhags/Thromdes to help them prepare action plans informed by data analysis and findings, while ensuring that resource allocation addresses identified gaps and priorities.

vi. **Strengthen roles, responsibilities, and capacity**: Clearly define roles and responsibilities for timely data submission with defined timeline for submission, quality assurance, and monitoring at Dzongkhag, Thromde, and WSD levels. Conduct regular refresher training for field engineers and technicians to ensure consistent data collection and system updates, while promoting experience sharing to resolve common challenges.

vii. **Institutionalize and enhance data collection practices**: Develop and disseminate standardized checklists and guidance notes for all questionnaires to ensure uniform practices. Revise data entry formats to capture emerging indicators, climate-related impacts, and water quality parameters aligned with national standards. Introduce features to flag-off incomplete or inconsistent entries and institute periodic cross-checking mechanism for long-term data quality.

viii. **Upgrade system functionality for comprehensive coverage**: Enhance the WaSIS platform to capture service-level data aligned with 13th FYP and SDG 6targets. Additional features such as water extraction and supply volumes, water tariff faecal sludge management indicators, and O&M aspects of water and sewerage systems. Ensure data collection from all the existing water and wastewater to facilitate accurate analysis and comparison with the SDG and national indicators.

ix. **Improve monitoring, analysis, and financial sustainability**: Ensure safely managed water and sanitation in the dashboard are aligned with SDG and 13th FYP goals. Generate data to compare revenue from water tariffs against O&M costs, particularly in urban areas, to assess financial sustainability. Add features for treatment volumes and disposal practices for sanitation systems to strengthen monitoring.

x. **Inclusion of institution-managed systems in WaSIS:** Expand the WaSIS database to include water supply schemes that are independently operated and managed by institutions such as health facilities, schools, armed forces establishments, and monastic institutions to ensure comprehensive sector coverage.

xi. **Annual publication of the WaSIS report:** Institutionalize the annual update and publication of the WaSIS report to ensure timely availability of reliable data for effective planning and informed decision making.

xii. **Capacity building for WaSIS focal persons and administrators:** Undertake periodic capacity building programmes for Dzongkhag WaSIS focal persons and system administrators to strengthen data management, improve system utilization, and ensure long-term sustainability of WaSIS.

xiii. **Use infrastructure damage data to assess climate-related risks:** Analyse WaSIS data on water supply and sanitation infrastructure affected by floods and landslides and reflect the findings in future reports to understand service disruptions, system vulnerability, and implications for safely managed services under SDG 6.

End of the Report